DOCUMENT RESUME

ED 306 115 SE 050 515

AUTHOR Shashidhar, B.; And Others
TITLE Population Education.
PUB DATE 88
NOTE 217p.
AVAILABLE FROM M/s. Mahalakshmi Enterprises, Importers, Booksellers & Library Suppliers, 66, 6th Main IV Block, Rajajinager, Bangalore-560 010, India (40 rupees in price).
PUB TYPE Reports - Descriptive (141) -- Books (010) -- Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC09 Plus Postage.
DESCRIPTORS Curriculum Development; Demography; Environment; Family Planning; *Foreign Countries; *Overpopulation; Population Distribution; *Population Education; Population Growth; Population Trends; *Preservice Teacher Education; Program Evaluation; Social Influences; *Teaching Methods; Vocabulary
IDENTIFIERS *India

ABSTRACT

Population education has assumed enormous importance in the national and international arena, since population changes influence the quality of life of individuals, families, the nation and the world as a whole. Population education has, however, special significance to India since young persons below the age of 15 are reported to form about 42% of the total population. By providing adequate information about population education to the students at different levels of pre-service teacher training programs, this book was undertaken to enable new teachers to understand the importance of population education, realize the need for teaching population education in a different and non-conventional way, and equip them with the required knowledge, attitudes and skills in order to participate more effectively and efficiently in the successful implementation of population education programs. Topics include: (1) trends in population growth; (2) population policies and programs in India; (3) curriculum development, teaching strategies, techniques, and evaluation of population education programs; (4) agencies involved in population education; and (5) related terminologies in population education. Contains a bibliography of over 100 references. (MVL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED306115

POPULATION EDUCATION

DR. B. SHASHIDHAR
KOTHURANGAPPA
S. SHIVARAMA REDDY
S. GANGADHAR

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

B. Shashidhar

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

SE 050 515

SHWETHANANDE PUBLISHERS
Chickballapur 562 101
1988

POPULATION EDUCATION

DR. B. SHASHIDHAR
Professor and Principal
Municipal College of Education
Chickballapur

KODI RANGAPPA N. SHIVARAMA REDDY
Lecturers
Municipal College of Education
Chickballapur

S. GANGADHAR
Government Junior College
Chickballapur

SHWETHANANDI PUBLISHERS

Chickballapur-562 101
1988

3

Published by
Mrs. Gangambika,
SHWETHANANDI PUBLISHERS,
611, Opp. Suprabhat Theatre
Fort, Chickballapur-562101.

POPULATION EDUCATION
© 1988, Authors.

Price Rs.40/-

Printed at:
M/s Lotus Printers,
32/25, 2nd Main,
Rajajinagar Industrial Town,
BANGALORE-560044.

To

OUR PARENTS

from whom we started learning

FOREWORD

Population education has assumed enormous importance in the national and international arena, since population changes influence the quality of life of an individual, the family, the nation and the world as a whole. Population education has, however special significance to India since young persons below the age of 15 years, according to 1981 census, is reported to form about 42% of her total population. This group is going to influence greatly the future of this country. They will become adults, marry and become parents in a decade or two. These persons therefore need to be educated to become wise parents who understand the benefits of small family to themselves and to the society, the urgency of the problem of population control etc., Hence, the need to develop an awareness about such matters amongst the students in schools and colleges.

Population education is loaded with controversial, conflicting, value laden issues and the educators have to be cautious in dealing with the same in the classroom. Hence, there is a need to prepare the teachers in the delicate art of handling such an explosive subject without hurting sensibilities and value, system of the community. That is how the subject of population education has found a place in the programmes of teacher education.

The impressive bibliography of this book, demonstrates that there is a lot of source material available in various books, documents and reports. However, it is practically impossible for a student teacher to go through these source materials and pick up what he needs.

I am glad that Dr. Shashidhar and his young colleagues have made an honest attempt at meeting the felt need and have brought out a fairly comprehensive book. The authors have taken a lot of pain to review the vast literature available on the subject, to make wise selection of the relevant material, and place in the hands of teachers a most useful book.

Even though the book is primarily meant to cover the B.Ed., syllabus of the Bangalore University, it has gone much beyond narrow limits. The authors have rightly pointed out in their preface that there is no claim for originality. A text book meant for students, by it's very nature is not meant to be an original work. But, the originality or skill in writing the same consists in marshalling, selecting, and presenting the information already available so as to make the subject appealing and comprehensive to the target group. In their maiden attempt at bringing out a book of this kind on Population Education the authors have succeeded. I hope that this book will be received well by the students and teacher education institutions.

January 1, 1988
Bangalore.

N.R. HIREMATH

Preface

The field of Population Education has been growing by leaps and bounds these days. There is no dearth for resource materials. Literature is available in abundance. Many of the national and international agencies have been doing a commendable job of disseminating the information in numerous ways and various forms. Yet, the students who are introduced into this young discipline often grope in darkness, not being able to locate the information.

Population education is old enough now. It is high time that all those concerned with this growing discipline make an earnest attempt to crystallize the subject matter. Despite its relevance and significance, many of the crucial issues in the field have either been unresolved or not been attended to.

In 1985, Bangalore University introduced Population Education as one of the five additional subjects for B.Ed., course. Eventhough the students choose population education, they soon become disillusioned and disheartned, as they discover the non-availability of text books. The teacher educators are also not properly equipped. Experience with our students motivated us to undertake this work. During these last two years we approached many national and international organizations for help. With their kind and generous help, we were able to know more about the field. More we read, more we were convinced about the need for an introductory book. The result of that conviction is the present work.

Our work is not comprehensive. Neither does it say anything new for those who are in the field of Population Education, nor do we claim this work to be original. Indeed we have drawn heavily upon many reports, books and articles written by many experts in the field. Although, it is inadequate, we take this opportunity to express the debt of gratitude to all of them.

Our purpose throughout this work is to present a pen-sketch of the different facets of the fascinating field of Population Education. We earnestly believe that teachers play a very crucial role in helping population education programmes achieve their goals. For this to happen they must have sufficient knowledge about the field and should become conversant with different strategies and techniques. More than this, they should be convinced about doing tangible things in the direction of achieving the goals of population education programmes. It is here we hope that this book will be helpful to the prospective teachers in equipping themselves in a better way.

By providing adequate information about population education to the students at different levels of pre-service teacher training programmes, we hope that they will be able to: 1) understand the importance of Population Education, 2) realize the need for teaching Population Education in a different and non-conventional way, and 3) equip themselves with

required knowledge, attitudes and skills in order to participate more effectively and efficiently in the successful implementation of population education programmes.

We are indebted to many national and international organizations for their kind and timely help. Foremost among them are: UNESCO, IPPF, ILO, Population Institute of East-west Center, Honalulu; National Family Planning Coordinating Board, Jakarta; Carolina Population Centre, USA; Family Planning Organization of Philippines; Population Education Program, Manila; Population Information Bureau of Johns Hopkins University, USA; Ministry of Education, Culture and Sports, Republic of Philippines ESCAP; World Watch Institute, Washington; Family Planning Association of India and NCERT.

Many friends and well wishers have motivated and encouraged us in this maiden adventure. We do warmly record our gratitude to: Sri G.S.Panduranga Rao, Secretary, New Horizon Cultural and Educational Trust, Bangalore; Sri. M.Channakeshava Naik, Principal, Govt. Junior College, Chickballapur; Sri.Avalappa, Head Master, M.P.H.S., Chickballapur; Sri.M.B.Nanjappa, Manager, Vijaya Bank, Palace Guttahalli Branch, Bangalore, Sri B.Hareesh Shetty, Manager, Vijaya Bank, Chickballapur; Sri.Jayaram Shetty, Vijaya Bank, Chickballapur and Sri.B.K. Dattatri, Lecturer, Govt. College, Chickballapur.

Members of our families have been extremely kind and considerate to us during the arduous days of writing this book. We owe our special thanks to them.

Sri.P.S.Vastrad, K.A.S., Assistant Commissioner, Chickballapur & Chairman, Committe of Receiver-cum-manager for Municipal College of Education, Sri.C.V.Venkatarayappa, Sri.K.R.Srinivasan, Sri.S.Y. Mariyappa, Sri.B.Muniyappa, members of the Committee and Sri.G.V.K.Rao, I.A.S., Sri.A.G. Nishandar, Sri.A.Mahadeva former Chairmen of the Committee have been kind to us in many ways. Our colleagues and the members of the non-teaching staff of Municipal College of Education have been helpful to us. Sri.S.R.Dixit, Librarian, Municipal College of

Education has extended his help in every possible way. Smt.Sumithramma has patiently typed the manuscript several times exceedingly well in a remarkable time. We record here our sincere thanks to all of them.

Prof.N.R.Hiremath has been very kind to us since the beginning. We sincerely thank him for his generous help and also for being kind enough to write a foreword to this book.

We also place on record our thanks and appreciation to M/s Shwethanandi Publishers and M/s Lotus Printers, Bangalore who have materialised our dream in a remarkably short duration with imaginative excellence.

We request our readers to help us to improve this book by sending us their valuable suggestions.

January 1, 1988

Dr.B.Shashidhar.
Kodi Rangappa.
N.Shivarama Reddy.
S.Gangadhar.

CONTENTS

Foreward		
Preface		
Chapter-1	Nature and Scope of Population Education	1
Chapter-2	Objectives and Contents of Population Education.	15
Chapter-3	Related Terminologies in Population Education.	34
Chapter-4	Demographic Concepts.	54
Chapter-5	Trends in the World Population Growth.	70
Chapter-6	Population Growth in India.	77
Chapter-7	National Population Policy of India.	89
Chapter-8	Population Programmes in India.	98
Chapter-9	Developing a Curriculum for Population Education.	104
Chapter-10	Techniques and Methods of Teaching Population Education.	115
Chapter-11	Strategies for training Personnel in Population Education.	135
Chapter-12	Population Education for Out-of-School Youth.	147
Chapter-13	Monitoring and Evaluation in Population Education.	160
Chapter-14	Agencies involved in Population Education.	177
Bibliography.		197

POPULATION EDUCATION

Chapter 1

Nature and Scope of Population Education

People all over the world have an unmovable faith in education. Education is one of the important factors in the development of individuals and nations. It is viewed as an agent of social, economic and political development. It assists in the development of nations and can bring about desirable social change. On account of its developmental role, people always look up to education for answers to several problems of development. The expectations are always raising. Often education is considered as a 'Sanjeevini'. The number of people employed in the field of education

is huge. At the same time the number of people influenced by education is large. Children in any part of the world spend a considerable part of their lives in the schools and colleges. During their stay in the educational institutions the children are to be prepared for their future life as good citizens of the country. Relevant knowledge and skills that are necessary to function as a citizen are to be taught to them. Appropriate values and attitudes are to be developed at an early age.

The period of schooling is also an ideal age to develop an awareness of the social problems. Therefore most of the educationists, planners and national leaders always consider that education is one of the most effective tools to solve a problem. Obviously, the problems like drug addiction, alcoholism, social evils, pollution of environment, problems of national integration., find their way into the school curriculum. Thus, the number of subjects that the children have to learn keeps on increasing. Since seventies the population education as one such area, is gaining importance.

The growing importance of population in recent years is due to several reasons. The main reason is that the people all over the world are becoming seriously concerned with the alarming rate at which the population is increasing. Many countries have taken up several programmes, to meet the challenge of the growth of population. Population education has been regarded as the best way to meet this challenge all over the world. The growth of population is a threat to the socio-economic stability of any country. It can only be checked if the attitude of the people towards large size families is altered. In a traditionally agrarian country like India large family has been a deep rooted social value. Changing the attitude of people is not an easy task. Because of the dynamic role played by education in bringing about social change and modernization, it has aptly thought that education can be of much help in changing the attitudes of the people towards large family. Thus population education is an educational innovation.

Meaning and Definition of Population Education

The term 'Population Education' was coined by Prof.Sloan R. Wayland of Columbia University, U.S.A.

Population Education in simple terms means education about population. It is aimed at creating right attitude towards family size. Population education is defined in several ways.

In the Regional Workshop on Population and Family Life Education at Bangkok in 1970 under the auspices of UNESCO, population education has been defined as "an educational programme which provides for a study of the population situation in the family, the community, nation and the world with the purpose of developing in the students rational and responsible attitudes and behaviour toward that situation". This definition is a very widely accepted and much used definition.

In 1981, the Parliamentary Conference on Population Development in Africa defined Population education as "an educational program which helps individuals and groups ..... to define themselves the nature of the problems involved in demographic processes ..... and to determine the means which society as a whole, and they themselves as individuals and/or groups could use in order to react to those processes and influence them with a view to improving the quality of life, both present and future".

In the above definition it could be seen that acquiring knowledge is considered to be more important than changing the attitude. Incidentally it may be mentioned here that characteristically African approaches to population education lay emphasis on cultural diversity, education for development, environmental issues and family life education for girls.

In 1972, the Staff of the Population Education Programme of Philippines accepted the following definition: "Population education is the process of developing awareness and understanding of population situations as well as a rational attitude and behaviour toward those situations for the attainment of quality of life for the individual, the family, the community, the nation and the world". In this definition it is implied that population education is a deliberate attempt of the school to educate the individuals about the implications of population growth. This is done with a purpose of developing the understanding

of the consequences of individual decisions and behaviour with regard to these matters.

In a Latin American Regional Seminar concerning 'Programme in Education and Population' held at Santiago during 1974, population education was defined as a "multidisciplinary educational effort that shows the factors which influence the qualitative and quantitative characteristics of the human population and that contributes to the preparation of the individual in the areas of sexual education, family life education, civics, population awareness and environmental education". It could be seen that in this definition individual and family life is given more importance than demographic issues.

Lane and Wileman (1974) in their book define Population Education as "the study of human population and how it affects, and is affected by, several aspects of life; physical, social, cultural, political, economic and ecological".

Viederman (1975) defines population education as "an educational process which assists the individual (a) to learn the probable causes and consequences of population phenomena for himself and his communities (including the world); (b) to define for himself and his communities the nature of the problems associated with population processes and characteristics, and (c) to assess the possible effective means by which the society as a whole and he as an individual can respond to the influence of these processes in order to enhance the quality of life now and in the future".

The Commission the Population Growth and the American Future upon recommending enactment of a Population Education Act attempts to look at population education in a specific way in terms of what should it do. According to it, "..... A program of population should seek to present knowledge about population processes, population characteristics, the causes of population change, and the consequences of such change for the individual and for the society. We believe that population education and for the society. We believe that population education should not approach population as a "Problem" to be solved or as a point of view to be promoted. The goal of population education is to incorporate concepts and

materials related to population into the school curriculum in order to educate future generations, enabling them to make more intelligent decisions with regard to population matters".

Population Reference Bureau in its publication 'Population Education: A Challenge of the Seventies' attempts to broadly explain the nature of population education in the following way:

"Population education seeks to bring about a realization of the individual, family, social and environmental effects of the explosive increase in human population, the rapid shifts in the concentration and distribution of people, the implications of changing age and other demographic patterns, and the conceivable options that may be open to mankind to cope with the consequent problems. While it is not confined exclusively to a particular age group, it is focussed primarily on students who will become the principal child bearer within one or two decades".

Massialas defines Population Education, as "the teaching and learning of reliable knowledge about the nature of human population and the natural and human consequences of population change. The main purpose of population education is to help the individual make rational decisions about population matters as a member of his family and community utilizing appropriate information sources and inquiry skills".

V.K.R.V.Rao, in 1969 in his inaugural speech at the National Seminar on Population Education emphasised that, "Population education..... is primarily a motivational force for creating the right attitudes to family size and the need for family planning and should not be mixed up with sex education or knowledge of family planning methods".

The main goal in population education is to involve the students in a learning process. This process should enable the learners to understand population-related issues. They should be able to understand the relation between population and quality of life. Appropriate skills to analyse and define problems should be developed. The students must be able to make rational decisions. Responsible attitude and behaviour towards population - related

issues must be inculcated.

Jayasuriya (1978) in his book 'Curriculum Innovation through Population Education', points out that, "Population Education is the process of assisting individuals, with due regard to their maturity:

(a) to acquire an understanding of the factors affecting selected aspects of quality of life in their bearing upon the individual and upon society, and to appreciate in particular the pervasive nature of population change as one of the most important factors;

(b) to acquire the ability to assess the quality of life implications, now and in the future, for oneself and others, of alternative actions, most especially those relating to population behaviour;

(c) to develop attitudes, values, and skills conducive to responsible decision making and action with a view to enhancing quality of life for oneself and for others, now and in the future;

(d) to take such action in the immediate present as would lead to the enhancement of quality of life in those spheres of life in which such action is immediately possible; and in other matters, such as population related behaviour regarding which immediate action may not be possible to resolve to act with due regard to the enhancement of quality of life when time and opportunity for such action come".

Earlier it has been pointed out that population education is a recent innovation. From a study of the definitions of population education it could be seen that there is no single definition of population education. There is a lot of confusion in perceiving what population education is. The definitions available vary in their preciseness and emphasis. Some definitions attempt to list out the desired behavioural outcomes. Some other definitions attempt to enlist the contents. While some definitions emphasise cultural diversity, other definitions focus on individual and family life. For some achieving the acceptance of the small family norm is more important, where

as some definitions aim at non-directive behavioural out-come such as rational and responsible attitude and behaviour toward family size. Thus one could see the diversity in the definitions of population education.

The different perceptions of population education has also given rise to some misconceptions. The variety could be seen in the emphasis laid in different countries, the kinds of programmes developed and also the stage at which the population education is introduced. Burleson (1974) aptly concludes that "Population education will be what population education in each locale define it to be".

Nature of Population Education

Population education is primarily an educational approach which deals with the influence of population trends on society and individual and develop rational and responsible attitudes for a higher quality of life. The nature of population education is comprehensive and more dynamic. Population education draws its content from various subjects like sex-education, Family life education, Environmental studies, Biology, Sociology, Home Economics, Geography, Family Planning, etc., Thus it is a multidisciplinary subject and it deals with many contemporary problems with an educational outlook.

Population education has a double task. It is both motivational and instructional. In its motivational aspect it gives training and encourages people to accept small family norm to control the size of the family. In its instructional way it gives information regarding population dynamics and its consequences.

Population education is both qualitative and quantitative in its nature. In its qualitative aspect, the main objective of population education is developing rational and responsible attitude to enhance the quality of life. For the attainment of quality of life, population education supplements the clinical methods to reduce the size of the family. So it should be considered both qualitatively and quantitatively. Population education, is, therefore, essentially related to human resource development. It is not only conerned with population awareness but

also with developing values and attitudes and it is a part of social learning process.

Population education is concerned with both cognition and values. The cognition aspect of education refers to the knowledge and understanding of the causes of population dynamics and its consequences. Its value aspect of education refers to develop rational and responsible attitudes towards population related matters. The concept of population education is problem centred. Here population education deals with current problems and it plans for the future welfare of the nation.

As the rapid growth of the population is creating many problems, it can be called as a multidimensional problem. A media which can solve these problems is population education. It is also multidimensional in nature. Here population education tackles many problems in micro and macro levels and provides direct or indirect solution in minimizing the problems and enhancing the quality of life. Thus, population education is multidimensional in its nature.

Scope of Population Education

The scope of population education is unlimited as it is a part of social learning process. It is concerned with population implications and interrelationships between the individuals and the community in which they live. It is oriented towards the improvement of quality of life of individual and society both now and in future. To achieve the objectives of population education scope of population education includes some of the following information:-

1. Basic concepts of population. Materials on this subject essentially consist of information on basic concepts of demography which include population as a system.
2. Population growth and its implications on economic development. This subject touches on the interrelation between population growth and economic development.
3. Population growth and its implications on sociocultural development. This subject provides information on the effects of rapid population

growth on social, cultural, political and religious life and development.

4. Population growth and the possible disturbance it may create on the balance in physical environment. This subject presents a discussion on how rapid population growth adversely affects the balance in physical environment.

According to Prof.Sloan R. Wayland the scope of population education includes the basic instruction in population dynamics, development of basic understanding of process of human reproduction, understanding of health problems associated with child-bearing, appreciation of the relationship between quality of life for a family and its size, appreciation of the significance of population characterstics and policies for social and economic development and familiarity with the population policies and family planning programme for one's own country. Thus it could be seen that population education is specially designed to bring about total national development by improving the individual and national quality of life.

Why Population Education?

Discussing population issues in school curriculum is not a new idea. IN 1935, the population commission of Sweden was concerned with declining birth rates. It advocated a comprehensive and truly vigorous educational campaign to clarify aims as well as means regarding the population question. Similarly in 1940s rapid population growth has received inte- of United States expressed its concern regarding declining of population growth in America. In 1960s rapid population growth has received interest in the study of issues concerning population. Many countries began adopting national policies either to reduce population growth or to provide family planning services. The family planning programmes provided the adults with information regarding consequences of high birth rate. The motivation campaigns of family planning adopted 'Information, Education and Communication' (IEC) or 'Information, Education and Motivation' (IEM) techniques. Over simplification of the problem, coercion, propaganda, misdirected effort, lack of efficiency, dogmatism lead the family

planning programmes away from the desired goal. Some experts started arguing that the programme cannot effectively educate the adults to change their beliefs and values which are deep rooted in them. They argued that young children are the best to educate with ideas about ills of rapid population growth. Thus the attention turned towards the school system. The young minds of children were considered as fertile ground to inculcate right attitudes towards small family size.

In 1974, The United Nation's first global conference of governments was held to discus population issues at Bucharest. In this World Population Conference governmental and non-governmental delegations discussed the political issues within a political context. Representatives from 136 countries participated in this conference. At the end of the Conference all the delegates agreed uponthe document called World Population Plan of Action. This document declared, "Educational Institutions in all countries should be encouraged to expand their curricula to include a study of family life, responsible parent-hood and the relation of population dynamics to socio-economic development and to international relations".

A number of national programmes began around 1970s in many countries of Asia. These programmes were financially helped by organizations like United Nations Fund for Population Activities (UNFPA), the World Bank, The United States Agency for International Development (USAID). UNESCO provided the technical assistance.

Today's students are tomorrow's parents. For the welfare of the future we must make our future citizens/parents very effective and useful. Population education studies the current problems and plans for the future welfare of the community and the very aim of population education is to impart knowledge, understanding, awareness and wisdom in the conduct of their lives at micro and macro levels. In this context population education touches life in many ways and it is universally applicable to all groups of population. By population education it is easy to inculcate population awareness among students. It can contribute in many ways to the general development of education.

To reduce the rapid growth of population, to plan the population growth and to enhance the quality of life, the knowledge of population education is necessary. As the clinical approach is applicable only to those who are in reproductive age group and all birth control programmes are directed to target couples only, it failed to control the rapid growth of population and a media which is suitable to all groups of population is essential.

In many of the third world countries the number of children below the age of 15 years is more. According to 1981 census arond 42% of Indian population was below the age of 15 years. This youth dependency is a burden. This group will strongly influence the demographic scene of the country in the next five or six decades. This is nearly half of the total population and therefore, what they learn and understand is of the utmost importance for the future of the nation. These young people will soon become adults and enter into marriage and parenthood and they will be reproducing even at increasing rate, since they carry momentum of the past with them. By population education our younger generation acquires an understanding of the basic facts about population explosion and how deeply it affects the socio-economic progress of the country and their own lives. If they can have sufficient background knowledge of this modern phenomenon of population growth then when they enter into marriage parenthood they will be more receptive to the idea of small family norm and the family planning. In this context, an awareness and understanding of the dynamics of population must be regarded as an essential part of knowledge of contemporary world, which should come through general education from youngest ages onwards and including adult education beneficiaries, too.

Population education is needed to supplement the existing government programmes which are trying to reduce the birth rate and enhance the quality of life. Population education supplements the work of Family Planning by inculcating values and attitudes regarding their future life.

Population education serves Governments which do not have policies to reduce growth like in Srilanka and Sierra Leonne. Here the in-school programs

stress 'Population literacy', that is, learning about population issues from different points of view, so as to enable students to make rational personal decisions. In countries like India, South Korea and the Philippines where the Governments have national policies for reducing population growth, the 'Population literacy' in the in-school programmes lend support for government policy and to promote smaller families. Here Population education becomes a supplementary and/or complementary programme.

Since population affects all aspects of modern life, important population issues and methods for analysing population problem should become an integral part of in-school education in the course of Population education. The target group of the Family Planning Programmes is the couples and its reach may not be effective in a traditional society like India. Population education which includes family life and sex education, can introduce and encourage the idea of responsible parenthood and smaller families and this will be imparted before the reproduction begins. Formal education legitimates society's concern with the subjects being taught. If we donot include population education in the school curriculum it might suggest that the issue has low national priority. Hence, the introduction of population education in the school curriculum is advocated.

Rationale for Teaching Population Education in Schools

Dr.Jacqueline D. Sherris, (1982) lists the following as the rationale for teaching about population in schools:-

- The purpose of education is to prepare the young for adult and teaching analytical processes and skills that can be broadly applied. Since population affects all aspects of modern life, important population issues and methods for analysing population problems should be an integral part of in-school education.
- Education can also build the attitudes and values that shape individual and social life. Where the environment, responsible parenthood, and other population related issues are important national concerns, they should be addressed in the school curriculum.

- Family planning service programme often reach Women only after they have had several children. Population education, especially when family life and sex education are included, can introduce and encourage the idea of responsible parenthood and/or smaller families to both males and females, and it can do so before the reproduction begins.
- Schools prepare national leaders. Since those who have attended school often are influential in their communities, the schools should provide a basic background in population that would be useful for future leaders and officials.
- All countries have organized school systems with facilities and personnel in place, ... children can be introduced to population and/or family issues through the school system without need for new organization or institutions.
- Changes in traditional family and community life, accelerated by migration to the cities and exposure to the mass media have diminished parental authority and enhanced the influence of schools and peer groups on children.
- Finally, formal education legitimates society's concern with the subjects being taught. Thus omitting population from the school curriculum might suggest that the issue has low national priority, even if the government supports family planning or other population programs".

It has been pointed out earlier that the goal of population education is to develop an awareness in the learner. It aims at developing an insight in the learner so that he can perceive the issues involved in a total perspective. It is hoped that with that insight learner will get a sound cognitive and attitudinal basis, for learning to make rational decisions concerning his own life, his family and the country and the world at large. The population education programmes donot believe in coercion or indoctrination through propaganda. Stephen Viederman (1970) says, "The aims of education are to increase awareness, and hopefully to help us achieve wisdom in the conduct of our lives, both as individuals and collectively. These aims are shared by the

new field that has come to be called population awareness education..... population education aims at developing informed individuals who will, as a result of the knowledge and understanding achieved through their education, make responsible decisions concerning their own reproductive behaviour. The key concept is responsible decision making which involves fore knowledge and understanding of the consequences of one's actions. This is the beginning of wisdom, and represents the moral and ethical purpose of population education".

Introducing population education in schools is not without problems. There are many issues involved and there are many problems to encounter with. There is resistance to this innovative idea. Divergent opinions are expressed regarding goals, contents and methodology of population education. Training teachers to enable them to implement the programme is also a difficult task. These problems are not unique to population education alone. All educational innovations have to face such problems. Diffusion of an educational innovation is a long-term process and a difficult one. As Dr.Jacqueline D. Sherris (1982) writes, "..... the field of population education is a challenging one - difficult because it involves large and cumbersome educational systems that are underfunded and overburdened; frustrating because it requires close coordination among many different groups without producing an easily identified result; but critically important because it has the potential to inform and influence the younger generation on a subject of vital personal and global importance".

In this chapter the nature and scope of Population education, as well as need and rationale for teaching population education were discussed. The next chapter is specially devoted to discuss the objectives and contents of population education.

****

Chapter 2

Objectives and Contents of Population Education

In the previous chapter the nature and scope of population education were discussed. While discussing the definitions of population education, it was pointed out that there is no consensus and that there is diversity in the perception of what population education is. The effect of this diversity could be seen on the national policy, type of programmes, objectives of the programmes, contents and the strategies adopted.

Goals of Population Education Programmes

The goals of population education programmes

depend on the national population policies. The political, financial and organizational factors decide the nature of the programmes. There is a marked difference from country to country regarding the goals of population education.

In 1970 Bangkok Workshop on Population and Family Education defined population education as:

> "An educational programme which provides for a study of the population situation in the family, community, nation and world, with the purpose of developing in the students rational and responsible attitudes and behaviour toward that situation".

Population education programmes are designed to create an awareness in the people about the processes of population changes. These changes are affected by a variety of socio-cultural and biological variables and these changes affect the different aspects of life which determine the quality of life.

In a manual for field workers published by UNESCO (1981) it is well stated that,

> "The general goal of population education is to involve people in a learning process that will enable them to broaden their understanding of population-related issues and develop in them appropriate skills to define and analyse these issues so that ultimately they will be able to make rational and responsible decisions regarding these issues in a way that is personally meaningful and socially relevant. Implicitly in this approach is the idea that population education does not present the individual with ready made decisions and courses of action which have to be accepted by them. Rather he chooses the decisions and courses of actions after he has analysed the population situation and problem in the light of the various factors that can change the national and individual quality of life.
>
> The ultimate goal, therefore, of population education is to obtain a better quality of life for everyone regardless of their religious, ethnic, linguistic and/or social affiliations, and hence a better quality of life for the nation and the World."

In another document of UNESCO the following are considered as the general goals of population education:-

> "To enable learners to acquire the knowledge, skills, attitudes and values necessary (a) to **understand** and (b) to **evaluate** the prevailing population situation, the dynamic forces which have shaped it and the effect it will have on the present and future welfare of themselves, their families, communities, societies, nations and the world; (c) to **respond** (either by an intention to act or by an action itself) to population situations and problems in a conscious and informed manner".

The spirit of UNESCO's intention is reflected in the national population education programmes of different countries. The concept of population education accepted by a particular country reflects the major objectives of population education. It is widely accepted in that country and it is best suited to the needs of that particular country. Besides, it also reflects the core of values of that society. Earlier it was pointed out that the accepted concept or definition of population education varies from country to country. The difference in the objectives of population education is reflected in the approaches followed.

The report of National Workshop on Population Education held at Kaula Lampur, Malaysia in 1971 points that the goals of population education are, on the **macro level** to impart to the students knowledge and information concerning population characteristics and the cause and consequences of population change so that they will better understand the effects of these characteristics and processes on a wide range of public policies. Also, they might gain an understanding of public policy on population issues. Thus, the goal is to create an informed citizenary capable of making responsible decisions with regard to population policy matters. On the **micro level**, the goal of population education is to develop responsible fertility behaviour as might be defined by the norms and the needs of the society.

Dr.Jacqueline D. Sherris (1982) points out that, "All national population education programs have as stated goals to increase knowledge and understanding of population issues, especially as they relate to social and economic development within each country. Most programs also include as a goal to help students develop rational and responsible attitudes and behaviour on population-related issues in personal, family, and community life ..... It is sometimes not clear what the goals of population education program really mean in the classroom". Further, she points out that in Asian Countries population education programmes are usually designed to influence fertility. In these countries another goal is to build support in the schools and community for national population policies. In such countries national population programmes may include different objectives like promoting later marriage, slowing the rate of rural-to-urban migration and increasing the participation of women in development and encouraging family planning.

There are no explicit population policies in many sub-Saharan and Latin American Countries. As Dr.Jacqueline D. Sherris (1982) observes:

> "In Africa, if population education programs are undertaken, the goals tend to be improving health, preserving family values, and increasing awareness of environmental stress. An exception is Upper Volta, where population education is part of a sex education program. In many Latin American countries, an implicit goal of in-school programs has been to reduce high rates of adolescent pregnancy, abortion, and sexually transmitted diseases. In the late 1960s Columbia and Chile both initiated programs stressing population awareness, but implementation has been very limited. Even where there are no national population policies, population education can serve a useful purpose by introducing the younger generation to basic demographic information.

In developed countries most governments do not have national population policies or programs. In-school activities range from mandatory sex education in Sweden to locally prepared course, such as the Baltimore, Maryland, program in the US, that stress community, national, or global demographic and environmental concerns".

Importance of Objectives

Objectives are written statements of expected learning outcomes expressed in performance terms. Education is the process of bringing about desirable behavioural changes in the learners. In order to bring about the changes in the behaviour, goals of learning need to be explicit. According to Burus (1977) a properly expressed objective should have the following basic features:-

1. It deals with a specific performance or set of performances.
2. It is expressed from the learner's point of view.
3. It has a performance statement.
4. It may contain references to special conditions to which the performance will confirm.

Objectives are essential to develop programmes of action and to develop curriculum. Objectives express the ends toward which the educational efforts are directed, objectives are classified as long range, intermediate and immediate. Some authors classify them as general and specific also.

Objectives of Population Education

Defining objectives of population education is not easy. There are many difficulties. First of all it is necessary to arrive at a consensus about goals and objectives of population education. For this, the goals and objectives need to be considered in a very abstract way. Besides this they should be considered in a highly generalized learning situation. The goals need to be adopted to the local needs and contexts. The nature of programme also becomes important.

The general goals of population education are to be translated into explicit specific objectives in order to provide suitable curricular experiences to the learners and also to evaluate the efficacy the experiences so provided. There are many difficulties in framing specific objectives. There is no consensus regarding what the learners are actually expected to do or to achieve in order to acquire the desired knowledge, understanding, skills, attitudes and values. The programmes of population education contain semi-abstract terms or semi-generalizations. Added to this due to the diversity in the programmes and approaches universally applicable list of objectives cannot be prepared. However, for formulating objectives guidelines enunciated in an UNESCO document (1972):

"General goals should:-

-State the broad aims of the programme;
-Identify the general population issues at which the programme is aimed (or identify how the programme is related to other national or sub-national programmes of social and economic development);
-Outline the components or sub-goals of the programme regarding:
    the audience to be reached,
    the content to be learned or taught,
    the teaching/learning methods to be used,
    the resources (human, economic, physical, material) required,
    the methods of evaluation to be used;
-Indicate the level of population-related knowledge it is hoped to attain;
-Indicate the types of problem-solving skills, attitudes and values which are to be fostered".

"Specific objectives should:-

-Be derived from general goals or sub-goals;
-Specify the steps in programme development as tasks to be undertaken, groups to be reached, targets to be attained;
-Identify the constraints in the way of programme development and how they are to be overcome;

- Relate each programme component to the resources which have to be developed and the methodologies or strategies which have to be employed; in many programmes, this may involve a cost-benefit analysis;
- Specify the beginning and end of each learning step in terms of learners' performance;
- Specify the understanding to be acquired, the skills to be developed, the attitudes and values to be encouraged and the methods that will be used in each step."

In the light of the above guidelines let us examine a few objectives of population education.

Objectives of Population Education in Different Countries

In the National Seminar on Population Education held at Bombay In 1969 it was concluded that,

> "the Objectives of population education should be to enable the students to understand that family size is controllable, that population limitation can facilitate the development of a higher quality of life in the nation and that a small family size can contribute materially to the quality of living for the individual family. It should also enable the students to appreciate the fact that, for preserving the health and welfare of the members of the family, to ensure the economic stability of the family and to ensure good prospects for the younger generation, the Indian families of today and tomorrow should be small and and compact with only two or three children".

In the Report of Project in Curriculum improvement for Population and Family Education in Elementary and Secondary Schools of the Republic of Korea (1971) it is pointed out that population education seeks:

> "to familiarize teachers and students with factual knowledge of population dynamics so that they will understand the causes of population growth and its personal and social impact;
>
> to provide teachers and students opportunities to consider together a number of attitudes

towards population problems and their causes so that they will be able to measure their own out-looks".

The objective of population education according to The National Family Planning Coordinating Board, of Indonesia:

"is to introduce to the student various basic population data and problems, the relationship between population growth and social, economic and environmental harmony. It is expected that population education will form a solid foundation for a new population attitude in coping with population problems faced by the society, nation and the World".

Bhatia (et. al., 1980) discuss the stagewise objectives of population education. They enlist the objectives separately for primary and secondary stages. For each stage the objectives are enlisted separately under the heads (a) information and knowledge (b) skills and abilities and attitudes.

The Population Education Programme of Philippines (1985) states the objectives of Population Education as follows:-

"Stated in general objectives, population education should assist the student:

1. To acquire knowledge of
   1.1. the methods (and problems) of measuring and projecting population situation;
   1.2 the fertility, mortality, and migration behaviours of people over time and space;
   1.3 the values, beliefs, and practices of society which influence fertility, mortality and migration behaviour;
   1.4 the effects of rapid population growth (and other population changes) on economic development, food production, health, education and other government services, the physical environment and natural resources, political power, sociological and psychological aspects of people's lives; and,

1.5 human and non-human reproductive processes (sexuality).

2. To develop rational and responsible attitudes and behaviour toward family size and toward other population matters.

3. To acquire skills in planning and decision-making and to utilize them in planning and decision-making on population matters now and later in life.

4. To improve his ability to learn by participating in classroom activities which employ a variety of teaching strategies - with emphasis on the discovery approach and less emphasis on lecture.

Before this chapter is concluded let us have a look at the exhaustive list of objectives of population education enlisted by the National Family Planning Coordinating Board of Indonesia. These objectives not necessarily are models, but they can be useful while attempting to enunciate the objectives for a specific programme in a particular country. It is needless to say that the needs of the learners should be kept in view while doing so.

General Objectives of Population Education

a. to develop understanding and awareness about the factors causing rapid population growth and the close interaction between population growth and development programs to enhance the standard of living of the people.

b. to develop understanding and awareness about the cause and effect of family size upon the life situation within the family and community.

c. to develop rational and responsible attitudes in life within the family and community.

d. to develop rational and responsible attitudes in life within the nation and the world.

Specific Objectives of Population Education

Based on the general objectives, the specific objectives of population education are; The student audience will:

a. have an understanding and awareness about factors causing rapid population growth and the close relations between population growth and national development efforts to improve the welfare of people.

b. have an understanding about concepts and processes in basic demography.

c. have a knowledge about rapid population growth and its causes.

d. have an understanding about the relationship between human welfare and the socio-economic development programs.

e. have understanding and awareness about the government policies and population planning in the framework of development.

f. have an understanding about the cause and effect of rapid population growth.

g. have an understanding and awareness about the meaning and importance of a well balanced physical environment.

h. have an understanding and awareness about the cause and effect of family size upon the life situation within the family and society.

i. have awareness that the size of the family can be planned and that it is not just determined by fate.

j. have an understanding about the causes and effects of a large family.

k. have awareness that the small family norm is something reasonable and desired and of the relationships between family size and quality of life.

l. have awareness of the relationship between maternal health, child welfare and family size.

m. have an appreciation for the small family as the foundation to achieve high quality of life.

n. have an understanding about the negative effects of dense population and rapid population growth, on the physical surroundings.

o. have an understanding and awareness that individual action can influence the life of the society.

p. have a rational and responsible attitude toward the fate of nation and the world.

q. have a rational and responsible attitude and behaviour toward the population program.

r. have a rational and responsible attitude toward the fate of the family and improvement of societal life.

s. have a rational and responsible attitude and behaviour toward family size.

t. have an appreciation for efforts to maintain a healthy environment for the family and society.

The above objectives can be viewed from the micro and macro levels.

First, on the **micro level**, people are willing to have a small family based on their own interest and those of their families.

Second, on the **macro level**, people adopt responsibility for other people's interest at the community, national and international level.

Ramesh Chandra (1972) attempts to enlist a few objectives for inservice teacher education programmes. According to him these programmes aim at imparting to teachers the knowledge and understanding about the population situation, to help them in developing the right attitudes towards the family size and to equip them with necessary skills in their day-to-day teaching effectively. Further in-service programmes would also enable the teachers to develop proper attitudes among students so that they could also take a wise and rational decision about the family size when they become adults. The objectives enlisted by Ramesh Chandra (1972) are given below:-

(1) To develop an understanding in teachers about the population situation and its implications onsocial and economic life of the country.

(2) To make the teachers aware about the trends of population growth in developing and developed countries and its comparison with India.

(3) To inculcate among teachers an understanding of the visible impact of population growth like problems of transport, overcrowding etc.,

(4) To develop an understanding about the different biological factors responsible for population growth and the relationship of population and environment.

(5) To impart the knowledge about some of the problems which are the product of population growth e.g., social tensions, crimes etc.,

(6) To develop an understanding in teachers about the advantage of short family and its impact on the quality of life.

(7) To develop an attitude among the teachers so that they could take wise and rational decision about the family size.

(8) To develop in teachers the skill of locating the areas related to population education and to weave the contents of population education effectively in their teaching subjects.

(9) To develop the ability of collecting and analysing the demographic data and interpreting the charts, graphs etc., related to population.

(10) To develop the ability of involving the community in population education programme.

A review of the objectives of population education given in the previous paragraphs would reveal that there still a long way to go in this area. Eventhough developing attitudes and values has been listed by many as a goal, the objectives do not concern themselves with that stated goal. They seem to be content with providing information or promoting understanding. Many of the objectives are in semi-abstract terms or semi-generalizations. Lack of specificity in defining objectives would lead to difficulty in putting them into practice. It is also very difficult to evaluate them.

Eventhough much literature is available about objectives less effort has gone in the direction of defining objectives. Very few attempts have been made in arriving at a hierarchy of objectives of population education. Regarding cogitive domain there is confusion and contentment, regarding affective domain there is a tangential approach and in the case of psychomotor domain rarely specific skills are identified. Eventhough much is spoken about values and attitudes, there is no clearcut say regarding the type of values and the kind of attitudes to be selected. Strong arguments are put forward regarding prescriptive and non-prescriptive approach or value-free and value-fair approaches.

Content of Population Education

Population Education is a part of overall national development efforts to improve the individual and national quality of life. The content of population education is derived from population and its related studies. It is determined according to the nature and level of the group of learners concerned. The content of population education programmes is influenced by the specific national situation, political and educational goals. It should suit the socio-cultural situation as well as the educational needs of the country. Eventhough people agree on the inclusion of most of the topics there is some disagreement on the inclusion of controversial topics like sexuality, human reproduction and family planning. The inclusion of these in the content of population education programme depend on the sensitivities of a particular country.

In the light of the above diversities, it is clear that no uniform content can be planned for all the countries as what would be appropriate for one country might not be appropriate for another. Therefore, different authorities/organisations recommend the content to be introduced in Population Education, some of them are given below:-

The Regional workshop for the Development of packages of Adequate Learning Requirements in Population Education which was organised at Chiagmai in 1984 proposed the following core messages for population education:-

(1) Family size and Family Welfare (2) Delayed Marriage (3) Responsible parenthood (4) Population change and resource development and (5) Population related beliefs and values.

Dr.Nena R. Bustrillos of the University of Philippines gives the ways of identifying the body of knowledge for a family-oriented population education, curriculum. The relevant topics identified are as follows:-

(1) Demography to include
   (a) Populatioin growth, Distribution and Density
   (b) Mobility and
   (c) Age Structure

(2) Home and Family life to include
   (a) The family
   (b) Family role and
   (c) Human Sexuality and

(3) Ecological Impact.

This approach is from the point of view of integrating family life education in rural development. Viederman (1975) outlines the content of population education as follows:-

1. The population situation to include size, growth, Distribution, Migration, Composition and Trends.

2. Population and the quality of life to include Food, Health, Education, Employment, Urbanization, Environment, Socio-economic Development, Political system and Family life;

3. Action programme to include public policies and programmes and individual family choices; and

4. Human Reproduction to include Human Physiology, Human Sexuality and Family Planning including contraception and/or infertility.

The content of the Population Education Programme Curriculum of Philippines (1985) drew upon a wide range of disciplines, in addition to basic demographic information, such as Sociology, Anthropology, Economics, Political Science, Psychology, History, Geography, Natural Sciences and the Health Sciences. Concepts were derived from these academic areas and were consolidated into five major areas following the program's objectives and curriculum framework. These major areas are (1) Demography; (2) Determinants of Population change; (3) Consequences of Population change; (4) Human Sexuality and reproduction; and (5) Planning for the future.

Avabai B. Wadia has suggested the following elements which may be included in population education content:-

- Demographic trends, their determinants and consequences.
- Social and economic development trends facts and figures.
- Ecological factors and human population growth.
- Social Community and Family organizations.
- Reproduction in plant, animals and humans.
- Family life and interpersonal relations.
- Family size norms as related to above.
- Basic values and the quality of life for human progress.

According to Prof. Sloan R. Wayland of the Columbia University, Population Education includes some of the following:-

1. Basic Instruction in Population Dynamics.
2. Basic understandings of the process of human reproduction.
3. Understanding of health problems associated with child bearing.
4. Appreciation of the relationship between quality of a life for a family and its size.
5. Appreciation of significance of Population

characteristics and policies for social and economic development.

6. Familiarity with the Population Policies and family planning programme of one's own country.

Sharma (1981) includes the following basic contents in Population education:-

1. trends of population change in India.
2. the population of India in World perspective.
3. projections of Population change (theory)
4. factors of population change (theory)
5. the relationship between population and resources (theory)
6. population and agricultural production.
7. population and nutrition
8. population and resources and
9. population and environmental pollution.

Until now there are no empirical evidences to show that the teaching of any particular content in population education will produce the desired results. It is agreed by the experts of many countries that the teaching of certain contents will most likely lead to the realization of the goals of Population Education.

Prof.Jayasuriya (1972) prefers to adopt the approach of looking at the potential content of population education in a total perspective and identifies five broad areas:

A. The Collection and analysis of Population data.
B. Population growth and human development.
C. The problem of urbanization.
D. Psycho-social aspects of human sexuality. The reproductive process.
E. Population planning.

Prof. T.S.Mehta (1972) considers the following three major elements as the core of any population education programme:

i) Determinants of population growth.

ii) Demography (the population situation), and

iii) Consequences of population growth.

To this list he adds two more elements:

iv) Human reproduction

v) Family planning policies and programmes.

According to Prof.Mehta the above two elements are integral parts of sex education, and they are necessary to make the population education programme more comprehensive.

Thus, it is evident that the contents of population education vary. This variation is more pronounced in the case of different countries. The table given below attempts to enlist the countrywise contents of population education.

TABLE-1

CONTENT EMPHASIS IN IN-SCHOOL POPULATION PROGRAMMES IN DIFFERENT COUNTRIES

Region & Country	Content Emphasis
ASIA & PACIFIC	
Bangladesh	Population trends and effects. Population and development. Govt. Policies.
China, People's Rep.	Importance of family planning and late marriage
Fiji	Population trends and effects Family planning. Human reproduction. Population and ecology Family life.
India	Population trends and effects. Family life. Govt. Policies.
Indonesia	Population trends and effects. Population and development. Government Policies.

Korea, Rep. of	Population trends and effects. Family life, environment Human reproduction Family planning. Government Policies.
Malaysia	Population trends and effects. Environment. Government Policies.
Nepal	Population trends and effects. Family planning.
Pakistan	Population trends and effects.
Philippines	Population trends and effects. Human reproduction Family planning. Government Policies.
Papua New Guinea	Population trends and effects.
Singapore	Importance of Small Family.
Sri Lanka	Population trends and effects.
Thailand	Population trends and effects.

AFRICA AND MIDDLE EAST

Egypt	Population trends and effects.
Ghana	Family planning and Family life Education.
Kenya	Family life. Human reproduction.
Mauritius	Population trends and effects.
Somalia	Population trends and effects.
Sierra Leone	Population trends and effects. Population and development.
Tunisia	Population trends and effects. Family and religious values.
Yemen People's Democratic Rep.	Population dynamics, Family life.

LATIN AMERICA

Chile	Population dynamics.
Columbia	Population trends and effects. Family life, environment, Sex Education.

Dominican Republic	Sex Education, Family life education, Ecology, Demography.
El Salvador	Family life, environment, Population dynamics.
Mexico	Family, Population and Sex Education
Paraguay	Family education.
NORTH AMERICA	
Baltimore-US	Population trends and effects, family life, Urban life issues.

As evident from the above table the different countries emphasize different aspects of contents of population education. As stated earlier, the national situation influences the contents of population education programme. Added to that the types of the target group decides the type of contents to be included. In the above table it could be seen, that 'Population trends and its effects', 'Quality of life' are emphasized in the countries of Asia. But, it is not the case with African or Latin American countries. The Asian countries consider rapid population growth as an obstacle to socio-economic development and therefore the population education programmes in these countries are usually designed to influence fertility. On the other hand, African countries do not have explicit policies. In most of the sub-saharan african countries the issues related to health, migration, urbanization and environment are given importance. In the case of Latin American and Caribbean countries imparting education about sex and family life becomes more important than demographic issues.

In this chapter the issues related to objectives and contents of population education were discussed. In the next chapter a few terminologies related to population education will be discussed.

****

Chapter 3

Related Terminologies in Population Education

Population education as pointed out earlier, is relatively a new field of knowledge. It borrows it's subject matter liberally from different fields of knowledge. Interdisciplinarity and multidisciplinarity have been it's special characteristics. On the other hand it also contributes it's knowledge to different disciplines. The boundaries of population education are continuously expanding. Yet there are some problems. Population education has not yet obtained the status and honours of a discipline. Eventhough population education is taught at graduate and post graduate levels, the conservative academicians at the university level are not mentally ready to accept population education as a discipline. Added

to this the ambiguity in definitions, lack of specificity in contents, absence of well tried out and established strategies of teaching; luke warm approach of educational system towards population education etc., have increased the 'teething problems' of population education. These problems are not unique to population education. All educational innovations have passed through similar stages.

In the field of population education many terminologies are used like 'family planning', 'family welfare education', 'family life education', 'sex education', 'health education' and 'environment education'. These terminologies are not synonyms. An attempt is made in this chapter to briefly explain each of these concepts.

FAMILY PLANNING

For hundreds of years people in many nations have planned their families with the help of contraceptive methods. A record of a contraceptive "receipt" dating back to 1850 B.C. has been found in Egypt. But it was not until this Century that family planning started as a world-wide movement. Today, family planning education and services are established in more than 108 countries. The family planning is considered to be very important because of various reasons. Firstly, there are many reasons that may encourage a couple to decide to limit their family or to space the births of their children because of economic reasons. Family planning helps them in this regard. Secondly, family planning is essential to protect mother's body to recover from the strain of pregnancy, Child birth and breast feeding. Added to this, with few children, mother would be able to take care of her children properly. Thirdly, family planning promotes the community and country's welfare. In a way family planning is not only a way of helping individual families, but is also a way of helping countries attain their development goals. Fourthly, family planning is an instrument of social transformation.

International Encyclopaedia of Population defines family planning as "Planning on the part of Women, Men and couples to have the number of children

they want, when they want them". World Health Organisation (WHO) defines Family planning as

> "the use of range of methods of fertility regulation to help individuals or couples to attain certain objectives; avoid unwanted births; bring about wanted births; produce time of which births occur in relation to the age of parents. It may include an arrangement of activities from birth planning and the management of infertility to sex education, marital counselling and even genetic counselling".

From a broader sense WHO views family planning as a way of thinking and living that is adopted voluntarily on the basis of knowledge, attitudes and responsible decisions by individuals and couples, to promote the health and welfare of the family. The above definition makes us to understand that family planning aims at family limitation, spacing, and helping childless or subfertile couples to have a baby. It is also clear from the above that family planning aims at the overall welfare of the family and society.

According to Population Education Programme of Philippines (1985), the aim of family planning is to attain the maximum enjoyment of life. It is anchored in the right of the individual to the growth of mind and body, to health and to work, and to affirm his dignity as a person. It aims to promote the responsible use of procreation, to convince the people that the birth of a child need not occur by chance and that his future is not solely dependent on fate or divine will. The sexual act must take into consideration the inherent right to dignified existence of the future child. Limiting the number of children is a parental responsibility that considers the welfare of the family, community and society.

The greatest problem in family planning in India is to motivate people towards the use of different contraceptives. Both sexes must be motivated, and in the intensive stage of educational campaign husbands and wives must be approached separately. Motivation may start with women, but it must immediately spread to the male sector as under the Indian conditions important decisions on family matters are

taken by the male. Out of the total 21 million children born in India every year, 46.8% are fourth and higher order births. An attempt to eliminate the births higher and higher than the third will be a great solution to our Population problem and this is the intention of the Government of India behind enunciating the policy of small family of one or two children.

Eventhough family planning programme in India is estimated to have averted about 7 crore births at a total investment of Rs.2,400 crores upto the end of 1984-85 and the awareness of family planning programme is nearly universal the acceptance rate is estimated to be only 35 percent.

In a few countries family planning approaches were in many ways were either largely propanganda wise and indoctrinative. Therefore, these programmes in some countries failed to consider many socio-cultural factors, such as the value attached to children, religious and other beliefs, preference for children as economic assets, children as insurance for old age etc., Hence, family planning was rejected by many; and therefore, not successful as expected. In the chapter-1 it has been already discussed how population education emerged in this situation.

The ultimate goal of Population Education is not to indoctrinate people, but is to pose realistic alternatives, to examine likely consequences, to enable the individual to formulate rational decision making behaviour and to enable them to act upon these decisions in the future.

Population education is not meant to replace family planning, rather it is meant to be a supplementary and/or complementary programme. While family planning concentrates on couples, population education has targeted young people-in-school, and out-of-school youth and adults. Population education is broader than family planning, not only in content coverage but also in the clientele being reached. If population education is successful, then it would be a lot easier for family planning workers to increase the number of adopters, and hopefully, once an adopter, never a dropout. Population education is only one of the policy interventions to mitigate the negative impact

of population growth within the family, the community and the nation.

FAMILY WELFARE EDUCATION

Population Education of Philippines (1972) defines Family Welfare

> "as the state of well-being of the family as a whole and the individuals that comprise the family".

This state of well-being means a level of satisfaction of the basic needs of the family such as adequate water, food, shelter, employment, health and educational facilities".

According to ILO,

> "Family Welfare includes all those factors, economic, social and psychological, which contribute to increase in the standard of living and improvement in the quality of life of the members of the family. Some of the components of family welfare are food, nutrition, clothing, housing, health, education recreation, security."

Family Welfare cannot be equated with family planning. Family planning is a means to plan the number of children which a couple may desire. Though very important, it is only one aspect of family welfare. Family welfare education provides knowledge on which new practices can be based, and stimulates and promotes innovative behaviour for the creation of new family and social norms.

Objectives of Family Welfare Education

One of the important objectives of family welfare education is legitimization of the acceptance of a small family norm; creation of a climate of opinion in which talk about sex and contraception is not considered furtive, embarassing, shameful or unmentionable, but rather is viewed as common place and matter-of-fact a climate in which seeking after a small family by means of contraception is accepted as being both respectable and proper. Another objective of family welfare communication is reinforcement for new knowledge and attitudes and reassurance about changed behaviour.

Family Welfare Messages

At the macro level Family Welfare Education focusses primarily at the characteristics of societies, matters and economic systems. It sometimes avoids study of the family aspects of population such as the causes and effects of the population related behaviour of individuals, couples and families. Instead, it stresses the macro aspects of over-population and the socio-economic problems which result from rapid population growth. This is done by giving statistics on growing unemployment rates, differences in per capita income etc., This macro presentation generally has little impact on a "grassroots" audience as an ordinary marker finds difficulty in relating his individual actions to these global problems. The major weakness of the macro focus is that is avoids focussing on the most important person in the vast population complex; the individual.

The micro approach in family welfare education focusses on the family and individual aspects of life which is related to the population growth, including marriage, migration, child bearing and home and family welfare. Each of these micro aspects has a direct bearing on population growth and distribution. This aims to slow down population growth by addressing the needs of individuals and families rather than by discussing national or aggregate experiences.

The Ministry of Health and Family Welfare in India had commissioned three marketing research organisations in the private sector to carry out independent evaluations of the family welfare programme and make diagnostic studies about contraceptive attitudes and practices of the people. In addition, more than 120 studies and research papers on various aspects of the Family Welfare Programmes have been analysed. The findings of these studies have formed a substantial basis for a new strategy. The new strategy gives family planning the broadest possible dimension of social engineering including not only health and family welfare but also child survival, women's status and employment, literacy and education and socio-economic development, including the anti-poverty programme. It seeks to streamline the entire spectrum of programme management, formulate for family

welfare a multi-disciplinary and integrated effort of all relevant developmental agencies and elevate the programme into a genuine voluntary people's movement.

The primary difference between family-welfare education and Population Education is that the content of the former deals primarily with intra-family relationships and the family's social and economic, interactions, while population education content deals with the interrelationships between individual, family, community and nation and with the ways that population phenomena impinge upon the welfare of all these units of society.

FAMILY LIFE EDUCATION

Through several acts since 1862 the Congress of the United States has supported the concept of family life in Home Economics by enacting legislation, granting federal aid to promote certain programmes of home-making at secondary, college and adult education levels. An important milestone in this trend of development is the establishment of the National Council of Family Relations in 1938. The 1941 year book of the American Association of School Administrators was devoted to "Education for Family Life". The results of these efforts prompted a dynamic "Education for Life Adjustment" movement in the United States. The earlier history of the introduction of family life education as part of home science and home economics imply that more academic and curricular considerations consistent with the overall objectives of education guided its introduction in school subjects. The Association of Family Life Education and Marriage Guidance and Counselling Programmes as part of official family limitation programme seems to emerge somewhere around 1940's when concern over fast growth of population was strongly felt in different regions of the world.

According to International Dictionary of Education Family Life Education means "Education designed to promote successful family life; a special program(me) or course at secondary, college or adult level designed as preparation for marriage and parenthood."

Family Education has been defined by Curtis Aneny (1968) as

> "a programme of learning experiences planned and guided to develop the potentials of individuals in their present and future roles as family members. Its central concept is that of relationships through which personality develops, about which individuals make decisions, to which they are committed, and in which they gain convictions of self-worth".

> According to Mascarenhas "The training of the youth to be effective and successful parents and good family members is called family life education" (1982)

> According to Kilander "Family life education stands for the protection, preservation, improvement and development of the monogamic family based as accepted ethical ideals".

Family life education includes all educational measures which in any way help young people to prepare to meet the problems of life that have centre in sexuality and inevitably come in some form into the experience of every normal human being. Family life education can also refer to the broad programme in home and family living designed to impart knowledge regarding practices, values and attitudes affecting family relationships. Eventhough ultilmately parents decide the size of their families, the family life education assists their decisions.

The Regional Consultative Seminar on Population Education, held at Bangkok, in 1986, points out that in few countries, family life education as a part of population education is aimed at (1) a better understanding of the physical and emotional changes associated with growing up (2) establishing and maintaining personal relationships with family, friends and society at large, and (3) developing values and skills for successful marriage, childbearing and rearing and other aspects of family development.

> According to Hussain, " the primary purpose of family life education is to impart correct, factual knowledge regarding sex and reproduction

of the child according to its age; to prepare young adolescents to expect normal physical and psychological change at puberty; to develop in young adults a wholesome [redacted] attitude towards sexual behaviour compatible with the demands of their society - not a negative or based on fear of venereal disease, shame or divine retribution; to inculcate into the adult that marriage is a unification, not only of bodies but of ideas and ideals and that sexual intercourse is not mere tax free entertainment but the ultimate expression of love and devotion, to teach giving rather than taking and instil into the parents the necessity of a correct parent-child relationship and responsibilities of parenthood".

Family is a centre to a child in his personality development and family life education has become a platform where people stand and discuss family conflicts. This family life education helps the younger to evolve self-chosen internalised controls; to give young people an insight into many aspects of family living in the context of their own family settings; to help in developing and examining the newer forces influencing the role of men and women and bringing about a change in family relationships; to give an understanding of human life cycle with special reference to adolescent reproductive process and the concept of responsible parenthood; and to generate values of concern and consideration for the individual and a sense of personal responsibility.

The subject matter of family life education courses is concerned not only with interactions and relationships but also with individual and their attitudes, feelings, values, and patterns of behaviour. In family life education, students explore their interpersonal relationships in order to better understand themselves and others, the influence of family experience upon personality development, and the different kinds of responses appropriated to specific roles. It is hoped that students will develop such interpersonal skills as empathy, adaptability, and communication and that the knowledge and understanding that they have acquired will affect their behaviour. The concept of personality is basic in family life education. Through an organized programme

of functional courses, family life education seeks to promote healthy personality growth; to provide opportunity for the emotional maturation required of individuals going through the family life cycle; to help the individuals prepare for successful marriage; and to raise the quality of parenthood and the level of satisfaction in family life.

A programme of family life education comprises an intensive study in the areas of personality development and human sexuality, family relationships, marriage, and parenthood. The study of family life integrates three major orientations: the sociological, the psychological and the biological. The content material, in general, treats four aspects of family: personality development, sociological-psychological relationships, dynamics of male-female interaction and role coordination throughout the family life cycle.

Sex education is an essential part of the secondary school family life program. An understanding of the many aspects of sex is seen in family life courses as an integral part of total pesonality development and social adjustment.

Family life education and sex education have been used as synonymous with population education. These terms refer to some aspects of population education rather than to the totality of it. Population education is a comprehensive, all inclusive concept which has emerged more recently.

Family life education is the microcosmic approach of the educationist towards the solution of the population problem of the nation and the world by the family unit. It focusses on the "Quality" desired for the family, rather than on the macrocosmic considerations of overpopulation on land, food and resources.

Population education is not the same thing as family life education since each have a different focus. Family life education can proceed without any reference to population dynamics as family life education is concerned primarily with an individual's personal life, personal growth, sexual development, interrelationships and adjustment to his society.

It is obvious that population education and family life education would converge and the ideal situation would be to develop and integrate both into a comprehensive educational plan.

SEX EDUCATION

Sex Education is mainly concerned with human sexuality, human reproduction and sometimes ethical issues relevant to sex related morality. It gives information regarding the process of human reproduction and the problems related to it. It deals with a philosophical view of the individual and the group problems which arise due to presence of men and women on earth.

In International Dictionary of Education, Sex education is defined as:

"i) Education concerned with reproductive process

ii) Education intended to develop an understanding of sexual impulses and behaviour".

According to the Encyclopaedia of Education one approach to sex education is,

> "to teach about human sexuality and the state and function of being a sexual person. The important thing is to deal with human sexuality openly and fully in classroom situations - from Kindergarten through college that all students to feel safe and free enough to express their feelings of wonder, pride and concern about their sexuality".

Objectives of Sex Education

Today our younger generation is learning wrong things about human reproduction by getting wrong information. These wrong information are mis-educating people on the emotional and sex aspects of life. Here sex education plays an important role in forming positive attitudes and basic opinions about sex. For developing wholesome attitude towards sex matters, sex education imparts knowledge about Human physiology and human reproduction system in a simple and scientific way.

To develop positive sexual habits among students, sex education focusses on human sexuality. It applies to the individual's total adjustment to his

family and society. Sex education develops responsible decisions concerning their reproductive behaviour and it develops in learners an understanding of their sexual nature and needs of changing sex roles and the place of sex in the individual and family life.

In the seminar on 'Responsible Parenthood and Sex Education conducted by IPPF in Tunis in 1969, the following three broad objectives of sex education emerged

i) to enable individuals to make informed choices about their sexual behaviour.

ii) to enable human beings to be accurately informed about the ways in which their bodies function sexually.

iii) to achieve satisfying and responsible personal relationships through the development of ethical standards.

According to the Encyclopaedia of Education Volume 8 the objective of sex education is to help children grow into adulthood "without getting into trouble". Those who hold this view hope that sex education will prevent illegitimate pregnancies, and will reduce the incidence of venereal disease or culminate such sexual aberrations as homosexuality or exhibitionism.

Contents of Sex Education

Sex education is not only concerned about factual knowledge of human reproduction, it also involves value systems and interpersonal relationships. The comprehensive programme of sex education includes coverage of following topics: information and attitudes about one's own sexuality, appreciation of the role of the opposite sex, role relationships, the place of sex in dating, marriage and parenthood, value systems which may be utilized in sexual decision making, ways in which society should deal with more deviant manifestations of sex, and evolution of social and legal regulations regarding sexual behaviour. Ideally sex education begins at birth and training for marriage and nature living as its goal. In junior and senior high schools sex education focusses on reproduction, menstruation for girls and venereal diseases.

Controversial Views on Sex Education

In many societies teaching sex education is a controversial thing. In some western countries and in Japan it is being emphasized in educational programmes. But, by and large a majority of Asian Countries are not in favour of teaching sex education in schools. Some people feel that the information about sex will place youngsters in moral dangers and will give rise to unwanted pregnancies of unmarried and spread of venereal diseases.

Introducing human sexuality into population education curriculum is very controversial. There are different opinions regarding this issue among experts. Taking one side are Sloan Wayland and other Asian population authorities who believe that population education should be approached only in demographic awareness, and they maintain sex education should be considered either as a separate curriculum or integrated into more relevant courses like biology and medicine

Wayland maintains that the problem of population growth is of overriding urgency, and all available resources should be channelled primarily towards its solution. If the attempt to include a controversial topic, such as human sexuality in population education would endanger the program's very urgent need for action towards family limitation, then it would be wise to exclude the topic. Further he says that the factors which have led to the initiation of sex education programs in the west are essentially unrelated to those which have led to the growing public concern with rapid population growth in developing countries. He adds "Sex Education as has been developed in west is very much oriented to the special problems associated with that social structure (which has given rise to sexual permissiveness resulting in an increase in venereal disease, illegitimate pregnancies etc.,) and, as such, covers many elements which are of limited concern for societies with different structures. Since neither sex nor family educational approaches were developed out of an interest in the family planning objectives, they are only marginally or partially appropriate for that field. Having a full and meaningful

understanding of sex and its relationship to all phases of one's life may not lead to any control of family size and one may engage in family planning with only a minimum concern about one's sexuality".In this view Wayland proposes a population awareness approach as a viable alternative.

On the other side Simmons, Arnold, The North Carolina Population Centre and Philippine Population Education Programme, see a better education outcome in terms of more rational and desirable sexual and fertility behaviour through the integration of demography, family living and sex education into population education curriculum. They maintain that an educational program incorporating all three approaches population awareness, family dynamics and human reproductive biology and contraception - can lead to lower fertility, an increase in the use of contraceptives, a rise in positive expectations regarding small family size, and responsible parenthood and childrearing practices.

Opposition to sex education differs from country to country and culture to culture. In the West like in Sweden, the strongest opposition to sex education programmes is political in nature. In United States, the extreme right group has launched a campaign against Sex Education because the group felt that Sex Education is a communist plot to destroy the moral values of the youth and they also thought that exposing children to sex education in schools will cause them to indulge in experimentation.

In Asian countries, the difficulty to introduce sex education in schools is the cultural mores and traditions which consider sex as a taboo.

In Korea and Pakistan, for instance, Sex information is not traditionally given until after marriage. In the Philippines, students find it difficult to understand and learn the parts and Physiology of the reproductive system and the genitalia.

The programmes of Sex Education seek to encourage more equal opportunities for personal fulfilment, responsibility, love and a respect for both sexes.

The basic difference between Population Education and Sex Education is the degree of emphasis which each gives to individual or social considerations. Population Education goes much more deeply into the interrelationship between social units.

HEALTH EDUCATION

The slogan of World Health Organization (W.H.O.) is **"Health for all by 2000 A.D."**. To achieve the above said goal of W.H.O. many National and Global Organizations are promptly participating to improve the conditions of health in the world community. In recent years the importance of Health Education has been increasing so much, that it has emerged as a separate discipline and profession.

Health education is a basic component of community health programmes and is one of the fundamental public health methods. Community health education is that component of health and medical programmes which attempts to change the health practices of people and the knowledge and attitude related to such practices. School Health Education is limited to the health education efforts which are planned specifically for students, from elementary school through College.

Definitions of Health Education

According to the World Health Organization (1954) health education like general education,

> "is concerned with changes in knowledge, feeling and behaviour of people. In its most useful forms it concentrates on developing such health practices as are believed to bring the best possible state of well being".

The New Encyclopaedia Britannica Micropaedia Vol.IV defines health education as,

> " Dissemination of information concerning the sanitary measures, excercise, rest and diet needed for the preservation of good health and the avoidance of disease".

Health Education is concerned with promoting health as well as reducing behaviour - induced disease. In other words health education is concerned with establishing or inducing changes in personal

and group attitudes and behaviour that promote healthier living.

Aims of Health Education:

Health Education is a part of Public Health Programme. It enables the people to understand the principles of health. The main objective of health education is to help a person to develop all characteristics of health within himself and the community members.

Health Education is mainly behaviour centred and mainly aims at developing favourable attitudes, habits and skills to strengthen and improve the quality of life of the family as a unit. Here health education acts as a supplementary media to population education.

W.H.O. Expert Committee on Health Education formulated the Aims of Health Education as follows:-

(1) To make the people, as individuals and members of groups, health is valued as a community asset.

(2) To educate people to develop the knowledge and skills to undertake the activities which will enable them to help themselves in achieving optional health.

(3) To help people to understand the nature and purpose of health services and facilities provided for their benefit.

(4) To instruct the children and youth, so that they may conserve and improve their own health.

(5) To establish in them the habits and principles of living which, throughout their schol life and into later years will assure abundant strength and energy (vigor & vitality).

Content of Health Education

Health education is concerned not only with facts, but also with the total person both in actions and his feelings. Health education must consider both the individual's physical functioning within his environment and also his mental and social adjustment.

In Vol.IV of Encyclopaedia of Education the contents of health education have been organized into the following categories:- alcohol, durgs, narcotics, boy-girl relationships, cleanliness and grooming, communicable diseases, community health, consumer health, dental health, environmental health, exercise, rest and sleep, family life and sex-education, health careers, mental health, non-communicable diseases, nutrition, postures and body mechanics, preparation for marriage, safety, smoking, structures and functions of human body, venereal diseases and finally vision and hearing.

Health education is not same as population education. It's main aim is to ensure a desired health related behaviour. It is a different discipline, it's scope being limited to human health aspect. Teaching about health can become an aspect of population education. Experience in the field of family planning has shown that without a minimum level of health, family planning number of children, malnutrition, infantile mortality maternal mortality, alter the quality of life and in turn development of the country. Because of this link WHO, UNICEF & IPPF have undertaken several collaborative programmes in different parts of the world. It may be concluded that health education is an important component of population education.

ENVIRONMENTAL EDUCATION

The history of Environmental Education starts from 1972, when United Nations convened an International Conference on the Human Environment in Stockholm. The next important step was taken in 1975, with the organization of Belgrade International Workshop on Environmental Education Programme (IEEP). As per the recommendations of Stockholm conference United Nations Environment Programme (UNEP) was established which is engaged in environmental education and training throughout the world.

According to International Dictionary of Education, Environmental education

> "is a Curriculum encouraging understanding and appreciation of the environment through subjects such as local history, ecology, pollution etc.,"

The United States Environmental Education Act (1970) states that,

> "Environmental Education means the educational process dealing with man's relationship with his natural and man-made surroundings, and includes and relation of population,pollution, resource allocation and depletion, conservation, transportation, technology and urban and rural planning to the total environment".

The Finnish National Commission in a seminar held in 1974 considers environmental education as,

> "a way of implementing the goals of environmental protection. Environmental education is not a separate branch of science or subject of study. It should be carried out according to the principle of lifelong integral education".

In short, it can be said that environmental education is education through environment, about environment and for environment. It is both a style and subject-matter of education. It means teaching about the components and constituents of environment for controlling the environment, establishing proper ecological equilibrium which entails proper use and conservation of resources and also involves control of environmental pollution. Environmental education is a lifelong process which not only aims at imparting knowledge and understanding of man's total environment and of the methods of their application for improving our near and distant surroundings but also aims at inculcating skills, attitudes and values necessary to understand, appreciate and improve our biosphere and troposphere.

According to UNESCO's Tbilisi Conference the goals of environmental education are:

- to foster a clear awareness of and concern about, economic social, political and ecological interdependance in Urban and Rural areas;
- to provide every person with opportunities to acquire the knowledge, values, attitudes, committment and skills needed to protect and improve the environment:
- to create new patterns of behaviour of individuals, groups and society as a whole towards the environment.

Objectives of Environmental Education

According to Belgrade Charter the goal of environmental education is,

> "to develop a world population that is aware of and concern about, the environment and its associated problems, which has the knowledge, skills, attitudes, motivations and committment to work individually and collectively toward solution of current problems and the prevention of new ones".

According to Stapp et. al., (1970) the objectives of environmental education are as follows:

(1) A clear understanding that man is inseparable part of a system, consisting of man, cultural and the biophysical environment and that man has the ability to alter the interrelationships of this system.

(2) A broad understanding of the biophysical environment, both natural and man-made, and its role in the contemporary society.

(3) A fundamental understanding of the biophysical environmental problems confronting man, how these problems can be solved and the responsibility of citizens and government to work towards their solutions.

(4) Attitude of concern for quality of biophysical environment that will motivate citizens to participate in biophysical environment problem solving.

The Objectives of Environmental education vary according to the needs of the society in question. According to Belgrade Charter 1975 (UNESCO 1977), the objectives of environmental eudcation are summarized as

(1) to help acquire basic understanding of the total environment, its associated problems and humanity's critically responsible presence and role in it,

(2) to help to acquire an awareness of and sensitivity to the total environment and its allied problems.

(3) to help acquire social values, strong feelings of concern for the environment and the motivation for actively participating in its protection and improvement.

(4) to help acquire the skills for solving environmental problems.

(5) to help evaluate environmental measures and education programmes in terms of ecological, political, economic, social, aesthetic and educational factors and

(6) to develop a sense of responsibility and urgency regarding environmental problems so as to ensure appropriate action to solve these problems.

Environmental education is not confined to school going students only but its target population comprises all ages and all spheres of society. With this environmental education has a potential to be subject of education of all levels starting with very simple concepts to complicated and highly technical aspects of population, pollution etc.,

According to Max Nicholson, environment during the present century, has undergone revolution resulting in population explosion, depletion of physical resources and increased environmental pollution. The developed and the developing countries are suffering from environmental deterioration, and will most probably head towards pollution with their higher rate of population growth and efforts for industrialisation.

Population developments are significant primarily in terms of man's relationship of past and present environments. Population concepts appear to play a role in the content of some programmes of environmental education. There may be an overlapping of content between population education and environment education but at present there is not enough conceptual interrelationship to permit anything more than a complementary and parallel development. Although these two "Educations" may be different, it must be remembered that population is an essential component of environmental education, providing a basis for discussion of a number of important issues, and the environment is an important factor in the theme of population education especially when considering quality of life issues.

****

Chapter 4

Demographic Concepts

In this Chapter some important demographic concepts are briefly described. A knowledge of these concepts is essential to understand the nature of distribution of population and population growth. Demography contributes much to the content of population education.

Demography and Population Education

Demographic information is essential for population education workers. Demography is a non-controversial content area of population education, unlike family planning or sex education. It is accepted as an essential component of population education programmes all over the world. Usually three kinds

of information are sought for in demography:-

1. Population size and distribution.
2. Population processes.
3. Population structures and characteristics.

Population education, as stated earlier seeks to bring about a realization of the individual, family, social and environmental effects of the explosive increase in human population, the rapid shifts in the concentration and distribution of people, the implications of changing age and other demographic patterns, and the conceivable options that may be open to mankind to cope with the consequent problems. Therefore it is very essential to provide the learner the basic knowledge and understanding about the population. Many of the concepts of demography are useful in population education. The demographic concepts can be easily used as contents in population education. For example population composition and growth can be easily integrated in Geography, Science, Social Studies and Mathematics. In rural sociology course demography can be a basic unit. In sociology the social and economic implications of demography can be studied while analyzing the problems of un-employment and under employment.

In the following paragraphs some of the essential concepts of demography are briefly explained.

Population

> The dictionary definition of population is "the number of people (or animals) living in a particular area, country etc., the people living in an area; a particular described group or kind of people (or animals) living in a particular place".
> (Longman Dictionary of Contemporary English 1978).

The term population is applied to any geographical or administrative territorial unit or to any ethnic, religious or community group. Each group or unit comprises of individuals. The family constitutes the primary unit of society.

Demography

The term demography is derived from two Greek words "Demos" meaning the people, and "Graphien" meaning to draw or write about, Achille Guillard in 1855 coined this term. Demography is the study

of information in figures about the Population of an area or a country. The Multilingual Demographic Dictionary defines Demography as, "the scientific study of human population primarily with respect to their size, their structure and their development". Donald J. Bogue defines Demography as, "the mathematical and statiscal study of the size, composition and spatial distribution of human population and of changes over time in these aspects through the operations of the five processes of fertility, mortality, marriage, migration and social mobility. Although it maintains a continuous descriptive and comparitive analysis of trends, in each of these processes and in their net result, its long run goal is to develop theories to explain the events that it charts and compares".

Population Census

> A Census of Population may be defined as, "the total process of collection, compiling and publishing demographic, economic or social data pertaining to a specified time or times to all persons in a country of delimited territory".

To put it in another way, Census is the collection of information about birth, death, occupational, social and economic conditions of the people of the country at a given time.

Density of Population

Density of population refers to the number of persons per square kilometre. In other words, density of population indicates the man-land ratio. There are 5 types of density of population.

While studying the population the following three main features are studied:-

(1) Size
(2) Composition &
(3) Distribution.

Size of the Population

The size of the population refers to the number of people living in a given place at a given time. This number is always changing. Therefore, it is usual to refer to a particular population on a cer-

tain date; or the end of the year, or the middle of the year, or the year in which the census was conducted.

The change in the size of the population is due to the following causes.

(1) Birth
(2) Death
(3) Migration

These three variables are called as demographic components, They are also called as determinants of demography. Some authors describe Fertility, Morality and Mobility or Migration as the components of population growth.

Composition of the Population

The composition of population includes all the measurable characteristics of the people who form a given population. Age and sex are the most widely used characteristics. Rural and urban residence, education, occupation, religion, marital status are measured. The composition of a population at any given point of time is mainly the result of past demographic events. The present composition determines the potential and direction for population change in the future.

Distribution of Population

Distribution of population refers to the way people are spaced over the surface of the earth. In other words, it emphasises the pattern of actual place-location of a Population.

Some of the factors affecting the Distribution of Population are;

1. Climate.
2. Fertility of the Soil.
3. Availability of Water.
4. Configuration of land.
5. Geographical location.
6. Availability of power resources.
7. Supporting Capacity.
8. Nature of Crop Cultivated.
9. Cultural and Non-Geographical Factors.

Demographic Processes

Birth and Deaths take place continuously and people change their places of living quite frequently. In the demographic processes these common experiences which are going on are studied. Bogue identifies the following five basic demographic processes.

1. Fertility
2. Mortality
3. Migration
4. Marriage
5. Social Mobility

Demographic Measures

Demographic measures refer to the mathematical and statistical tools and techniques employed by demographers while analysing and interpreting demographic processes, population size, composition and distribution.

Fertility

Fertility refers to the number of children born to a woman during her life time.

A woman is considered fertile if she has ever borne child. Fecundity on the other hand, denotes the ability to bear a child and has no reference to whether or not a woman acutally has borne a child.

General Fertility Rate (GFR):- is the number of live births in one year per one thousand females of childbearing age. Some demographers use female population ages 15 to 44, while others use 15 to 49 as the base of this rate.

Formula

$$\text{General Fertility Rate (GFR)} = \frac{\text{No. of Live Births}}{\text{Mid year Population of Women ages 15-44 or 15-49}} \times 1000$$

Completed Fertility Rate (CFR): is obtained by dividing the total number of children borne by the total number of mothers in all the age groups and the sum is multiplied by hundred.

Total Fertility Rate (TFR): This is calculated by adding up the specific feritlity rates belonging to different age groups. TFR is the mean number of children which a female aged 15 years can expect to bear if she lives until atleast the age of 50 years. This is subject to the given fertility conditions during her entire childbearing period.

Some of the determinants of fertility are:-

* Age at marriage
* Economic Status
* Religious and Social attitudes
* Illiteracy and Ignorance
* Climate
* Death rate
* Standard of living
* Attitudes towards family planning and birth control
* Social customs and traditional influences
* Family organisation
* Sterility.

Crude Birth Rate (CBR)

Crude Birth rate is the number of live births in one year per 1,000 midyear population. It is the ratio of the number of births which occur within a given population during a specified year to the size of the population at midyear. It is obtained by dividing the number of live births occuring during a calender year by the total population as on July 1 (midyear population of that year. The quotient is usually multiplied by 1,000 to show the number of births per 1,000 people. The number 1,000 is constant.

Formula

$$\text{Crude Birth Rate (CBR)} = \frac{\text{Total Live Births}}{\text{Midyear Population}} \times 1{,}000$$

Example: Given for a particular year:

Total Live Births = 50
Mid year Population = 10,000
What is the Crude Birth Rate?

$$\text{Crude Birth Rate} = \frac{50}{10{,}000} \times 1000 = 5 \text{ Per Thousand}$$

The crude birth rate is 5 births for every one thousand population or per thousand for a particular year.

Table 2: Estimates of Major Demographic Indicators for Selected Countries, 1960-1982

Region & Country (Mid 1982 Population in Millions)	Crude Birth-rate (CBR)		% Change in CBR	TFR	Crude Death Rate (CDR)		% Change in CDR	% Average Annual Growth of Population[1]	
	1960	1982	1960-82	1982	1960	1982	1960-82	1960-70	1970-82
AFRICA									
Kenya (18.1)	55	55	+ 0.2	8.0	24	12	-47.9	3.2	4.0
Mauritius(0.9)	41	26	-36.7	2.9	9	7	-25.8	2.2	1.4
Nigeria(90.6)	52	50	- 4.7	6.9	25	16	-35.6	2.5	2.6
ASIA									
China(1,008.2)	39	19	-52.8	2.3	24	7	-71.9	2.3	1.4
Hongkong(5.2)	35	18	-47.2	2.1	7	5	-20.9	2.5	2.4
India(717.0)	48	34	-28.3	4.8	24	13	-46.8	2.3	2.3
Indonesia(152.6)	44	34	-23.9	4.3	23	13	-43.2	2.1	2.3
Korea, Rep. of(39.3)	43	23	-46.7	2.7	14	6	-53.3	2.6	1.7
Malaysia(14.5)	44	29	-34.1	3.7	15	6	-57.0	2.8	2.5
Pakistan(87.1)	49	42	-13.6	5.8	23	15	-34.3	2.8	3.0
Philippines(50.7)	47	31	-34.0	4.2	15	7	-53.4	3.0	2.7
Singapore(2.5)	39	17	-55.3	1.7	6	5	-16.1	2.3	1.5
Sri Lanka(15.2)	36	27	-25.7	3.4	9	6	-34.8	2.4	1.7
Taiwan(18.5[2])	40	23	-41.8	2.7	7	5	-30.4	3.1	1.9[3]
Thailand(48.5)	44	28	-36.2	3.6	15	8	-48.1	3.1	2.4
LATIN AMERICA & CARIBBEAN									
Chile(11.5)	34	23	-32.8	2.7	13	7	-46.8	2.1	1.7
Colombia(27.0)	47	29	-38.8	3.6	17	7	-57.5	3.0	1.9

Costa Rica(2.3)	48	30	-36.8	3.5	8	4	-51.3	3.3	2.5
Mexico(73.1)	45	34	-25.3	4.6	12	7	-41.5	3.3	3.0
MIDDLE EAST & NORTH AFRICA									
Syria(9.5)	47	46	- 1.5	7.2	18	7	-62.1	3.2	3.5
Tunisia(6.7)	47	34	-27.0	4.9	19	9	-51.9	2.0	2.3
DEVELOPED COUNTRIES									
Japan(118.4)	17	13	-25.4	1.7	8	7	-13.2	1.0	1.0
United Kingdom(55.8)	18	13	-27.4	1.8	12	12	+ 3.5	0.6	0.6
United States(231.5)	24	16	-32.5	1.8	10	9	- 9.5	1.3	1.0

CBR = Crude birth rate (births per 1,000 population)
CDR = Crude death rate (deaths per 1,000 population)

Sources: Except as noted, World Bank (352)

1: Includes migration
2: Data from Population reference Bureau
3: 1970-81

From: Population Reports, Series J. No. 29, 1985, J-736

Age Specific Birth Rate (ASBR): is the number of live births born to women in a specific age group (for example, ages 30 to 34) per thousand women in that age group at mid year.

Formula

$$\text{Age Specific Birth Rate (ASBR)} = \frac{\text{Total number of live births to women of a specific age group}}{\text{Midyear population of Women of that age group}} \times 1000$$

Standardised Birth Rate (SBR)

In order to make comparison, standardised birth rate may be calculated standardised birth rate shows what the birth rate for a group of women would be if these women had the same age distribution as those in some standard population. It is computed by taking age specific birth rate for women and multiplying each of these rates by the number of women in the standard population in the corresponding age category of each one million persons in the standard population. The sum of these products divided by one million persons in the standard population. The sum of these products divided by one million and multiplied by 1000 is the standard birth rate.

Reproduction Or Replacement Rate : This is another index of fertility.

Gross Reproduction Rate

In order to calculate GRR the number of males, the women having no reproductive power and also the number of male children born **are not taken into consideration.** The number of mothers who have produced children and the number of female children born are taken into consideration while calculating Gross Reproduction Rate.

$$\text{G.R.R.} = \frac{\text{No. of female children born to mothers of a specific age group}}{\text{Total No. of mothers in that specific age group.}} \times 1000$$

Net Reproduction Rate (NRR)

Net reproduction rate is the average number of future mothers born to a mother of today. This

is an index of self-replacement potentiality of population with given age-specific rate of fertility and mortality. This is computed by applying the age-specific birth rates to the number of years lived in each group by the survivers of the original cohort after mortality has operated, summing the products, and then applying the ratio between the females born and total births, and dividing the result by 1000. The net reproduction rate was first found out by Kucjynsky .

$$N.R.R. = \frac{\text{Number of female births X Survival Rate}}{1000}$$

If the N.R.R. is 1, the population is stationary that is, the new mothers are just replacing the old mothers. If N.R.R. is greater than 1, population is increasing; and if it is less than 1, population is decreasing.

Mortality

Mortality is the permanent disappearance of all evidence of life at any time after birth has taken place. A death can occur only after a live birth has occurred. Therefore, for the purpose of mortality, all deaths before birth are to be excluded. The basic index of mortality is the crude death rate.

Crude Death Rate (CDR)

Crude Death Rate is the number of deaths in one year per 1,000 midyear population. It is the ratio of the number of deaths which occur within a given population during a specified year to the size of that population at midyear. It is obtained by dividing the number of deaths occurring during a calender year by the Population as on July 1 of that year. It is usually multiplied by 1,000 to show the number of deaths for each group of 1,000 persons in a population of a particular year.

$$\text{Crude Death Rate (C.D.R.)} = \frac{\text{Total Deaths in a Year}}{\text{Midyear Population}} \times 1000$$

Age Specific Death Rate (ASDR)

Age Specific Death Rate is the number of deaths in a Specific age group per 1,000 individuals in

that age group at midyear. This is usually calculated separately for the sexes.

$$\text{Age-Specific Death rate} = \frac{\text{Deaths to persons of specific age}}{\text{Midyear population of specific age}} \times 1000$$

Standardised Death Rate (SDR)

It is a relative measure of death rate which provides the comparative death rates of two places or two different periods. This is also called as adjusted death rate.

Infant Mortality

Infant mortality refers to deaths of infants (0-12 months).

Infant Mortality Rate (IMR)

Infant mortality rate refers to the number of deaths of infants in a year in relation to thousand live births in the same year.

$$\text{I.M.R.} = \frac{\text{Deaths of live infants in the year}}{\text{No. of live births in the year}} \times 1000$$

Maternal Mortality Rate (MMR)

Maternal Mortality rate refers to deaths of women due to causes which can be directly related to pregnancies, child birth and puerperal causes. Annual maternal mortality rate is calculated as follows:-

$$\text{Annual Maternal Mortality Rate (MMR)} = \frac{\text{Geographic area during a given year}}{\text{Number of live births which occurred among the population of a given geographic area during the same year}} \times 1000$$

The causes of death are many. The two most common factors are;

1. Morbidity and
2. Malnutrition.

Morbidity

Morbidity refers to the existence of sickness and disease in a population.

Migration

Migration means change of place of living for almost a long, stable period. Migration implies the movement of people from one place to another. When people leave one place and go to a new place for a temporary span of time, it is no migration from the demographic point of view. Migration is shifting of the home, and not the house. In the context of migration, we come across two processes, 'emigration' and 'immigration'. Emigration refers to going out of a country, while, immigration refers to coming into a country. Migration is not merely a process of shifting people from one place to another, it is fundamental process to change the structure of population.

Types of Migration

There are two types of Migration
(1) International Migration
(2) Internal Migration.

Measures of Migration

Gross Migration Rate

Gross Migration Rate is a measure of the total volume of migration or population turnover that a country is experiencing in a particular year.

Formula

$$\text{Gross Migration Rate (G.M.R.)} = \frac{\text{In-migrants + Out migrants}}{\text{Midyear population}} \times 1000$$

OR

$$\text{Gross Migration Rate} = \frac{\text{Immigrants + Emigrants}}{\text{Midyear population}} \times 1000$$

Net Migration Rate (N.M.R.)

Net migration rate is the net balance between arrivals and departures of people. This is used by demographers in determining the growth rate of a population together with birth rate and death rate. To compute, divide the net migration by mid-year population and multiply by 1,000. The net migration is the number of in-migrants minus the number of out-migrants.

Net migration = In-migrants - Out-migrants; or

Net migration = Immigrants - Emigrants

Formula

$$\text{Net Migration Rate (N.M.R.)} = \frac{\text{Net migration}}{\text{Midyear population}} \times 1000$$

Measures of Population Growth/Change

Population Change

Population Change depends on births, deaths and migration. The following equation is used to determine the size of the population at the end of a period.

$$P_2 = P_1 + B - D \pm M$$

where,

P_2 is the Population at the end of the year.
P_1 is the Population at the start of the year.
B is the number of births during the year.
D is th number of deaths during the year.
M is the net migration (the difference between immigration & emigration) during the year.

Rate of Natural Increase (RNI)

It is the difference between fertility rate (Crude birth rate) and mortality rate (Crude death rate) for a particular year.

This is expressed generally in terms of percentage, rather than per thousand.

$$RNI = CBR - CDR$$

Growth Rate

Growth rate is the increase or decrease in a Population in a year as determined by natural increase and net migration rate.

$$\text{GROWTH RATE} = RNI + NMR$$

OR

$$\text{GROWTH RATE (GR)} = (CBR - CDR) + NMR$$

Measures of Analysing Population Composition

1. **Ratio:** Ratio expresses the size of one number in relation to the size of another number.

2. **Sex Ratio:** Sex ratio is used to describe the sex composition of a given population. This ratio is calculated diffe-

rently in different countries. In countries like U.S.S.R. it is calculated as under:

$$\frac{P_m}{P_t} \times 100 \quad OR \quad \frac{P_f}{P_t} \times 100$$

Where, P_m = No. of males

P_f = No. of females and

P_t = Total Population

In countries like U.S.A., it is calculated as follows:

$$\frac{P_m}{P_t} \times 100$$

In countries like Newzealand, it is calculated as follows:

$$\frac{P_f}{P_m} \times 100$$

In India Sex ratio is calculated as follows:

$$\frac{P_f}{P_m} \times 1000$$

A distinction has also been made between primary sex ratio, secondary sex ratio and tertiary sex ratio. The Primary sex ratio denotes the ratio between two sexes at the time of conception, the Secondary sex ratio is the ratio between two sexes at the time of birth, and a tertiary sex ratio refers to the ratio of the two sexes at the time of enumeration.

According to 1981 Census, there were 933 females for every 1000 males in the country. In India too as in the case with all parts of the world, more males born than females. In India, approximately 937 female births takes place for every thousand male births.

Some more Demographic Measures

Doubling Time

Doubling time is the time taken by a population

to double in size. It is based on the same principle as the increase of money deposited at interest in a savings account in bank.

This also applies to the population of a country. If a country has a population of 15 million and a growth rate of 3 percent, at the end of the year the increase will be 1,50,00,000 + 4,50,000 = 15,450,000. At the end of the Second year the increase will be 15,450,000 X 0.03 = 463,500. So the total population will be 15,450,000 + 463,000 = 15,913,500. At this rate (3%), the original population of 15,000,000 will be doubled (become 30,000,000) in 23 years. The doubling time, therefore, in this country which has a growth rate of 3% is 23 years.

There is an easy way to calculate doubling time. It is a mathematical fact that, if a number is increased by 1% each calculation, 70 increases will double the number.

Thus, a population growing at 1% per year takes about 70 years to double.

Formula :

$$\text{Doubling Time} = \frac{70}{\text{Growth Rate in percent}}$$

Survival Rate

The proportion of persons in a specified group (age, sex etc.,) alive at the beginning of an interval (e.g. a five year period) who survive to the end of the interval.

Dependency Ratio

The ratio is calculated taking into account the number of persons under 20 years of age and over 65 years of age to the population in the age group 20-64 years multiplied by 100. It is also computed for number of persons under 15 years of age and over 65 years of age to the population of 15-64 years X 100. This gives the number of persons not in the labour force per 100 of the labour force.

Masculinity Ratio (M.R.): The number of males per 100 population.

The formula is $\text{M.R.} = \frac{\text{Male population}}{\text{Total population}} \times 100$

Feminity Ratio (F.R.):

The number of females per 100 population. The formula is

$$F.R. = \frac{\text{Female Population}}{\text{Total population}} \times 100$$

Child - Women Ratio (C.W.R.):

The number of children aged 0-4 in a year per 1,000 women aged 15-49 years.

Age Child Ratio (A.C.R.)

The proportion of aged persons and of children under 15 which indicate whether a population is becoming younger or ageing. Population with 10% or more of those 65 years old and over may be considered as old, and those with under 5% may be considered young.

Marital Fertility Rate (M.F.R.)

Computation of rates for married woman of child bearing age. This is more accurate measure of female reproductive performance.

Old Dependency Ratio (O.D.R.)

The number of old dependents (aged 65 and above) every 100 persons in the productive years (aged 15-64) must support.

Youth Dependency Ratio (Y.D.R.)

The number of young dependents (aged below 15) every 100 persons in the productive years (aged 15-64) must support.

While various population related concepts have been described in this Chapter, it is of the utmost importance to realize that population trends and changes in a country are mainly the result of decisions and fertility behaviour of all individual families living in that country.

****

Chapter 5

Trends in the World Population Growth

World Population has increased rapidly in the last three decades. In 1950 there were 2.5 billion people on earth. On July 11th 1987 it crossed 5 billions. Much of this increase has taken place in developing countries, where reduction in death rates have not been accompanied by comparable reductions in birthrates. Between 1956 and 1986, the population of Latin America and Africa more than doubled, while in East Asia and South Asia, population almost doubled.

	1950	1980
(1) Africa.....	220 million	470 million
(2) Latin America.....	164 million	364 million
(3) East Asia	673 million	1,175 million
(4) South Asia	716 million	1,404 million

Grouping Geographic regions according to the rate of population growth shows five of them, containing 2.3 billion people, in the slow growth category bracketed by Western Europe, which is on the verge of reaching Zero population growth 1.0 percent annually, this group has a collective growth rate of 0.8 percent per year. In these societies, rising living standards and low fertility rate reinfree each other. There are certain countries which have got almost zero growth rate population. These are given in the following table.

Table-3

COUNTRIES AT OR APPROACHING ZERO POPULATION GROWTH 1984[1]

Country	Annual Rate of Change	Population
	(Percent)	(Million)
At ZPG[2]		
Austria	0.0	7.6
Belgium	+0.1	9.9
Denmark	-0.1	5.1
East Germany	+0.1	16.7
Hungary	-0.2	10.7
Italy	+0.1	56.8
Luxembourg	0.0	0.4
Norway	+0.2	4.1
Sweden	0.0	8.3
Switzerland	+0.2	6.5
United Kingdom	+0.1	55.6
West Germany	-0.2	61.4
Total		243.1
Approaching ZPG[3]		
Bulgaria	+0.3	8.9
Czecoslovakia	+0.3	15.4
Finland	+0.5	4.9
France	+0.4	54.6
Netherlands	+0.4	14.4
Romania	+0.5	22.6
Total		120.8

[1]Excludes migration. [2]Zero Population growth is here defined as within a range of plus or minus 0.2 percent change in population size per year. [3]Countries with a population growth rate of 0.5 percent per year or less with fertility below replacement.

SOURCE:-Worldwatch-Institute estimates, based on data in United Nations, Monthly Bulletin of Statistics, New York, monthly.

Southeast Asia, Latin America, Indian Sub-continent, Middle East, Africa, these five geographic regions are in rapid growth group, which contain 2.6 billion people, just over half the world's total. This group is growing at 2.5 percent per year, three times as fast as the slowly expanding half.

Table-4

World Population Growth By Geographic Region 1986

REGION	Population	Population Growth rate	Annual Increment
	(Million)	(Percent)	(Million)
Slow Growth Regions			
Western Europe	381	0.2	0.8
North America	267	0.7	1.9
E.Europe and Soviet Union	392	0.8	3.0
Australia and New Zealand	19	0.8	0.2
East Asia	1,263	1.0	12.6
TOTAL	2.322	0.8	18.6
Rapid Growth Regions			
Southeast Asia[2]	414	2.2	9.1
Latin America	419	2.3	9.6
Indian Sub-continent	1,027	2.4	24.6
Middle East	178	2.8	5.0
Africa	583	2.8	16.3
TOTAL	2,621	2.5	64.6

[1]Principally China and Japan. [2]Principally Burma, Indonesia, the Philippines, Thailand and Vietnam.

SOURCE:- Population Reference Bureau, 1986, World Population Data Sheet(Washington, D.C.1986)

In acutal numbers, the slow growth regions add 18.6 million people each year while the rapid group add 64.6 millions. If the population grows with the same rate of 1.7 per thousand, according to the figures of United Nations: World Population Chart 1984, it is estimated that the population of the world will reach 6.12 billions by 2000 A.D. and about 8.1 billions by 2025 A.D.

World Patterns of Fertility

Fertility varies greatly in time and space. One of the most popular measures of fertility is crude birth rate. World Population in 1984 was totally 4.76 billion, with an increase of some 81 million in a year. This growth - the result of 133 million births and 52 million deaths - means the contemporary world is still in the middle of the demographic transition, with high fertility and comparitively low mortality. The developed countries had a birth rate of 15 per thousand while the corresponding figure for the less developed countries was 31 per thousand. From amongst the various continents, Africa continues to be far ahead of all the continents in terms of crude birth rate. It had a birth rate of 46 per thousand. The Continent of Latin America was second ranking continent with a birth rate of 32 per thousand. Asia the most populous continent ranked third with an average rate of 27 per thousand. It was followed by oceania 21 per thousand, North America 16 per thousand and Europe (excluding U.S.S.R.) 14 per thousand. The crude birth rate of the U.S.S.R was 19 per thousand.

Most of the countries of Western Europe except Spain, Portugal and Ireland, the crude birth rate was less than 15 per thousand. Outside Europe, only Japan has the distinction of attaining a low birth rate of less than 15 per thousand. The birth rate was between 15 and 30 per thousand in Spain, Portugal, Ireland, most of the East European Countries, U.S.S.R., China, Canada, U.S.A., Argentina, Chile, Surinam and Guyana, Australia, New Zealand, Sri Lanka, Thailand, Malaysia, North Korea and South Korea. In the remaining parts of the world, the

crude birth rate ranging between 30 and 45, while the birth rate crossed in most of the African countries. In Asia, however, Afghanistan, Yemen, Oman, Jordan, Syria did display a birth rate of more than 45 per thousand. The crude birth rate for India was 33 per thousand.

During the last thirty years or so there is change in the fertility rate. The crude birth rate for the world as a whole which was around 38 per thousand during 1950-55, has considerably declined to 27 per thousand during 1980-85. The decline in birth rate was much sharper in the case of developed countries. The continent of Africa which has highest fertility levels in the world has not shown any evidence of fertility decline. In developed countries the fertility levels declined and were below their fertility level of 1970s.

World Patterns of Mortality

The world population reveals that the crude death rate for the world as a whole was 11 per thousand during 1980-85. There was little to differntiate between mortality rates of the developed regions and less developed regions. The developed countries had a death rate of 11 per thousand. From amongst the various continents, Africa suffered the highest mortality rate of 16 per thousand. Europe with a mortality rate of 11 per thousand was ranked second. It was followed by Asia 10 per thousand, North America, 9 per thousand, Latin America and Oceania 8 per thousand. Although, the developed and the developing countries do not have wide disparity in terms of mortality rates, yet the disparities among the less developed countries themselves are quite significant.

The regional pattern of crude death rate in the world brings out that a mortality rate of less than 10 per thousand was recorded by the countries of North America, Latin America, Oceania, U.S.S.R., China, Japan, Thailand, Malaysia, Philippines, Spain, Poland, Netherlands, Yugoslavia. Most of the European countries of Asia, North Africa, Southern Africa recorded a mortality rate ranging between 10 and 15 per thousand. The countries recording mortality rate of over 15 per thousand were confined largely to the continent of Africa where the mortality rate

often crossed 20 per thousand. Bolivia in South America, Afghanistan, Nepal, Bhutan, Bangladesh, Laos, Kampuchia, Yemen, Oman in Asia also recorded a mortality rate of more than 15 per thousand. In India, the mortality rate was estimated to be 13 per thousand.

The infant mortality rate for the world as a whole was 81 per thousand. The more developed world has a very low infant mortality of 17 per thousand and the less developed world had a very high infant mortality rate of 92 per thousand is suffering from highest rate of infant mortality. Asia had an infant mortality rate of 80 per thousand and Latin America had an infant mortality rate of 63 per thousand. In Oceania, the infant mortality rate was 39 per thousand. Europe had an infant mortality rate of 16 per thousand. In the U.S.S.R., infant mortality rate was 25 per thousand. India had an infant mortality rate of about 118 per thousand.

World Patterns of Age Distributions

IN 1980 the median age for the world's Population was estimated to be 22.4 years. 35.6 percent of the world's population was below 15 years of age. The proportion of children below 15 years of age was more than 40 percent in most of the countries of Africa, of West Asia, of Central America, and in Equador, Peru, Bolivia, Paraguay, Venezuela, Neral, Bangladesh, Burma, Laos, Vietnam, Mangolia. The proportion of population below 15 years of age was the lowest in North America, Europe, Oceania and Japan. The dependency ratio for the world as a whole was 70.6. It was high in the case of the less developed world and low in the case of more developed world. The total dependency ratio in the case of more developed world. The total dependency ratio in case of less developed region was 77.8 and in case of more developed region it was 52.6. Among the various continents, the dependency ratio was highest in Africa (93.4) the lowest in North America (50.7). In India 39.2 percent population was under 15 years of age, 57.6% of the population was between 15-64 years of age and only 3.2 percent was over 65 years of age. The dependency ratio in case of India was 73.6

World Patterns of Sex Ratio

In the year 1980, the number of males in world as a whole marginally exceeded the number of females. There were 993 females for every thousand males in the world among the various continents. Europe, North America, Africa were characterized by the preponderance of females. The continents of Latin America, Asia, Oceania suffered from the paucity of females. Europe had the highest sex ratio of 1051 females per thousand males followed by North America (1050). Africa had the sex ratio of 1017 females per thousand males. Asia, on the other hand, had the largest deficiency of females as there were 960 females for every thousand males. In case of Oceania and Latin America the sex ratio was 983 and 995 females per thousand males respectively. The Soviet Union had a sex ratio of 1137 females per thousand males.According to 1981 census of India there were 933 females for every thousand males in India. The males are in minority in Europe including the U.S.S.R., due to the large losses of males in the Second World War. In the case of Western Europe the relative deficiency of males may be associated with the ageing of population due to low birth and death rates. In North America and Africa, the paucity of males may be associated with high male mortality rate. By contrast, the population of Asia exhibits a wide spread of preponderance of males. Here, the deficiency of females is largely the product of higher mortality rate among the females.

****

Chapter 6

Population Growth in India

The Population of India, which is estimated to be 785 million in 1986, has increased more than threefold since the beginning of the present century. The Indian demographic history of the present century can be divided into three distinct periods as **stagnant population, steadily increasing population and rapidly growing population.** The years 1901 to 1921 have often been recognised as the period of stagnant population. During this period, India's Population increased from 236 million to only 248 million. This was a period when the mortality rate was very high and often outmatched the fertility rates. During this period, both fertility and mortality were well above 40 per thousand. During 1921 to 1951, the population of India increased from 248 million to

360 million. Thus, a population of 112 million was added in a period of thirty years. The Indian demographic scene witnessed significant changes during this period due to the increasing control over abnormal deaths caused by epidemics, famines, etc., The distributional network was strengthened to meet the emergency calls of food shortages in different parts of the country. The economy was developed, particularly the agricultural sector, with a view to improving food situation. General conditions of sanitation and medical facilities were improved significantly with a view to bring down the mortality rates.

The population of India in 1981 was 68,51,84,692 and it has more than doubled itself since 1951. It has increased from 360 million in 1951 to 785 million in 1986. On an average, it has been increasing at a growth rate of 2.3 percent per annum. Such an unprecedented increase in the country's population in the last 30 years may be attributed to large scale developmental activities in different parts of the country.

The rapid growth of population is due to the following main factors :-

1. Transport and communication improved. This prevented large scale famine mortality.
2. Universal and early marriage and reduction in widowhood.
3. Natural calamities, diseases, etc., were brought under control more or less.
4. Welfare, health and medical facilities improved. This reduced the death rate, thereby causing rapid growth of population. Infant and maternal mortality declined rapidly.
5. Culture is fertility oriented, paternity is glorified.
6. Poverty and ignorance of the people are responsible for rapid growth of population.

Birth and Death Rates in India

The following table gives the birth and death rates of India from 1901 to 1980.

Table No:5

Birth and Death Rates and Population Growth in India 1901-1980

Year	Birth rate per 1000 Estimated	Death rate per 1000 Estimated	Growth
1901-1910	49.2	42.6	6.5
1911-1920	48.1	47.2	0.9
1921-1930	46.4	36.3	10.1
1931-1940	45.2	31.2	14.0
1941-1950	39.9	27.4	12.5
1951-1960	41.7	22.8	18.9
1961-1970	41.1	18.9	22.2
1971-1980	37.0	14.0	23.0

SOURCE:- Salkar.K.R. (1986.P.25)

It is observed from the above table that in a period of 80 years the birth rate in India has gone down by 12.2 points, in the same time death rate declined sharply by 28.6 points. In India, the death rate remained very high and erratic till 1930, but it showed a continuous decline in later years. But since 1921, the gap between the birth and death rates became wider and wider from decade to decade resulting in greater additions to the existing population. A rising trend in population is seen from the decade 1921-1930, but it has been accelerated further from 1951-1960 when the death rate sharply came down to 22.8 only, while the birth rate remained itself more or less at 41.7.

The crude birth rate for India for the year 1984 was 33 per thousand. Fertility can also be expressed in terms of number of children born to a woman. India exhibited a total fertility rate of 4.4 children per women which was fairly above the average for the world. India has a higher infant mortality rate than that of any developed country of the world. The infant mortality rates in Sweden, Newzealand and Holland were 20, 22 and 22 per thousand respectively. In 1951 the infant mortality in India was 183 per thousand and this fell to 140 per thousand in 1971. In 1984 India had an infant mortality rate of about 118 per thousand.

Distribution of Population.

India has got 2.2 percent of the world area. According to 1981 census in India, the northern region contains 15 percent of the total population, eastern India 25 percent, Southern India 21 percent, Central India 15 percent, Western India 11 percent and north-west India 10 percent and Uttar Pradesh was the most thickly populated state and has 1108.62 lakh population. West Bengal 545.8 lakhs, Tamilnadu 484.08 lakhs, Rajasthan 342.61 lakhs, Punjab 167.88 lakhs, Maharashtra 627.84 lakhs, Madhya Pradesh 521.78 lakhs, Meghalaya 13.35 lakhs. States like Himachal Pradesh and Nagaland have 42.8 lakhs and 7.74 lakhs population respectively. Karnataka has a population of 371.35 lakhs.

Density of Population in India

According to the 1981 Census, the average density of population in India is 216 per square kilometre. The population is growing rapidly but the land area has almost remained stable. However, the density of population is uneven in different parts of India. According to the 1981 census, the density per square kilometre is 4,194 in Delhi, 3,961 in Chandigarh, 1,258 in Lakshdweep, 1,229 in Pondicherry, 285 in Goa, Daman and Diu, 211 in Dadra and Nagar Haveli, 23 in Andaman and Nicobar Islands, 23 in Mizoram, 8 in Arunachal Pradesh, 655 in Kerala, 615 in West Bengal, 402 in Bihar, 377 in Uttar Pradesh, 372 in Tamil Nadu, 333 in Punjab, 292 in Haryana, 204 in Maharashtra, 196 in Tripura, 195 in Andra Pradesh, 194 in Karnataka, 174 in Gujarat, 169 in Orissa, 118 in Madhya Pradesh, 100 in Rajasthan, 77 in Himachal Pradesh, 64 in Manipur, 60 in Meghalaya, 47 in Nagaland and 45 in Sikkim.

Kerala was the most densely populated state and Delhi had the distinction of having the highest density among the various centrally administered union territories. Besides Kerala, West Bengal, Uttar Pradesh, Haryana, Assam also displayed higher densities while in the rest of the states the density was below national average.

Age Composition of India's Population

In India age structure is extremely in-accurate. Apart from ignorance and carelessness, there are

many reasons which appear to operate towards the deliberate mis-statement of age at census returns, particularly by the parents of un-married girls who have reached marriable age and by the widowers and bachelors, if they are eager to re-marry. According to 1981 census in India 39.2 percent population was under 15 years of age and only 3.2 percent was over 65 years of age the dependency ratio in case of India was 73.6. Naturally so, as the total fertility rate per woman was more than 4.

Sex Ratio in India

According to 1981 census, there were 933 females for every 1000 males in the country. In India too, as in the case with all other parts of the world, more males are born than females. In India, approximately, 937 female births take place for every thousand male births Female mortality rate in India are high in comparison to the male mortality rate in infancy, as well as during the reproductive period. The general neglect of females is largely responsible for high female mortality rate at childhood.

The sex composition of India's Population varies greatly from one part of the country to another. Kerala with 1032 females for every thousand males in the country had the distinction of being the only state with excess of females over males. At the other end of the scale was the State of Sikkim where there were only 835 females for every thousand males. Among the union territories, Goa, Daman and Diu had the highest sex ratio of 981 and Andaman and Nicobar Islands had the lowest ratio of 760.

According to 1981 Census, there were 975 females for every 1000 males in Andhra Pradesh, 900 in Assam, 947 in Bihar, 942 in Gujarat, 877 in Haryana, 988 in Himachal Pradesh, 953 in Jammu and Kashmir, 963 in Maharashtra, 972 in Manipur, 956 in Meghalaya and in Nagaland , 982 in Orissa, 886 in Punjab, 921 in Rajasthan, 948 in Tamil Nadu, 886 in Uttar Pradesh and in West Behgal 911 females for every 1000 males.

Literacy

The following table presents the literacy rates in India from 1901 to 1981.

Table:6
Literacy Rate in India per 1,000 by Sex

Year	Males	Females	Persons
1901	98	06	53
1911	106	11	59
1921	122	18	72
1931	156	29	95
1941	249	73	161
1951	249	79	167
1961	344	130	240
1971	395	187	294
1981	469	248	362

SOURCE: (Govt. of India, India 1986)

According to the 1981 census, the national average literacy rate, which was 16.67 percent in 1951, has increased to 36.23 percent in 1981. Eighteen states and union territories are above the national average. According to the 1971 census, the highest literacy rate of 61.56 was in the Union territory of Chandigarh and the lowest literacy rate of 11.29 was in Arunachal Pradesh. In 1981, Kerala improved its earlier position of number two in the ranking of literacy rate and attained the highest position with the literacy rate of 70.42 per cent, while the lowest literacy rate of 20.79 continues to be in Arunachal Pradesh. The literacy position in the age-group 15-35 has increased from 254.1 lakh in 1951 to 1,101 lakh in 1981. The total number of literates has increased from 601.9 lakh in 1951 to 2,475 lakh in 1981 (including the estimated literate population in Assam), a four fold increase in thirty years. Simultaneously, the total number of illiterates has increased from 3,009 lakh in 1951 to 4,376.3 lakh (including the estimated illterate population of Assam) in 1981, of which 3,695.2 lakh (84.4per cent) live in rural areas. The literacy rates among men is 46.89 per cent against the female literacy rates of 24.82 percent. Of the total of 412 districts in the country (1981 census), 243 districts had a literacy level below the national average inclusive of 193 districts where the female literacy rate was below 20 percent.

Determinants of Population Change in India

While considering the determinants of population change one is confronted with a substantial number of causative factors. Some of the factors are more important in one part of the country or in one social class or in one community than other. Especially in a country like India there is bound to be a wide spectrum of factors. The following can be considered as some of the important determinants of population change in India:

Desire for a larger family for economic security, social prestige and power; religious influence; social norms; polygamy; economic security; emotional security and protection in the joint family; psychological urge for the married women to have children; sex preference; need for more hands for handicraft and agricultural activities; production of more children for providing against any loss; production of more children to prove greater masculine virility/feminine fertility; little freedom for wives to decide the number of children; legal and religious recognition of the status of the male child for the purposes of inheritance and family name; inducement for having more children, e.g., child allowance, maternity facilities, extra rations etc., low legal for marriages; regional/state/racial/ethnic competition for political power; high proportion of the population in the reproductive age group; remarriage of widows/divorced women, anti mortality factors of health, such as; better maternal medical care, increased health facilities, improved sanitation, bettter diet, greater control of diseases, provision of recreational facilities, benefit of maternity leave with full pay, improved water supplies, and health education programmes, general improved social welfare services; improved technology leading to more effective control of natural environments and cata-shoples; widening gap between falling death rates and nearly static birth rates; unviersality of marriage; and common beliefs such as children are gifts from God and that the large family is "God's grace".

Consequences of Population Change in India

A Nation's Wealth lies in its healthy and happy men, women and children. The Population of a country can at once be an asset and liability depending on its resources. Rapid population growth results

in large population. If the size of the population in such as to permit optimum exploitation of the available resources in the country it becomes an asset. It is when an imbalance between population and the country's resources is created due to large population the measures must be taken to stabilize it. The aim of most countries is to achieve a positive balance between population and resources in order to promote a better quality of life. On the other hand if it exceeds the resources the population becomes a liability.

Along with the devastating threat of atomic explosion, there is 'Population explosion' which is equally harmful to our existence. If our civilization is at stake due to atomic power, it is more at stake because of huge growth rate of population. It took two million years for the human population to reach one billion. The second billion came in a hundred years, the third in thirty years and the fourth in fifteen years. At the present rate, the fifth billion will be reached in eleven years and the six billion in only nine years. So by 2000 A.D., the total world population is calculated as 6.25 billions. Out of this, the more developed countries would share only 1.36 billions and rest 4.89 billions would be shouldered by the less developed countries like Asian and African Countries.

We can go on increasing population every moment. But what else can be increased? It is not possible for us to create land, resources, minerals etc., As the population increases, the pressure also increases on everything which help us to live. As the population multiplies the problems we face also multiply. So the question of population is not merely quantitative but also qualitative by nature, as the implications of population growth upon the quality and the well being of the people are vitally important.

The impact of population growth on life in general in various aspects is breifly presented below:

(1) POPULATION SITUATION:

(a) **Population Size:** The quantity of population is increasing by leaps and bounds at every minute. By the end of 2000 A.D., out of the

estimated world population of 7 billions Indis's share will be one billion. So there is one Indian in every seven people of the world. With such a large size of population, it is difficult to imagine even what would be the size of the world population after 2000 A.D.

(b) **Growth Rate:** During 1980 the growth rate of more developed countries was 1.1 whereas in less developed countries it was 2.4. The rate of growth of Indian population is 2.5 percent in 1980 and by the end of the century the average annual growth rate in our country would be 3 percent and this would be the highest in the world.

(c) **Density:** India with highest growth rate in population accounts for nearly 15 percent of world population but occupies only 2.2 percent of the total land area. The average density of population in India was 142 per square km. in 1961, in 1971 it has increased to 173 persons for every square km. and in 1981 it was 216 persons per square km.

(d) **Migration:** With problems increasing, there is a tendency in people to move from one place to the other. They migrate from country to country, from State to State, from rural area to urban area which leads to the cropping up of problems. This growing tendency of people to rush to urban life for better facilities makes the urban life more hazardous with the problems of water supply, sanitation, food supply, anti-social activities and communal clashes. With such increase in urban population, we will have more problematic cities and towns.

(e) **Sterility:** Resources being limited and population exploding immensely, malnutrition retards growth resulting in sterility which is the lack of capacity of a man or woman to participate in reproduction.

(f) **Birth Rate:** More population would increase the birth rate still further.

(g) **Death Rate:** Still in India, the death rate is much higher compared to the average rate, though we have reduced to 14 from 42.6 percent. (See Table 5)

(2) ON ECONOMIC DEVELOPMENT:

(a) **Land:** The land area per head becomes smaller, decrease in cultivated land due to greater demand for housing; loss of natural fertility of land; low quality and quantity of the yield because of saturation in intensive cultivation, deforestation.

(b) **Capital:** Over population leads to decline in per capita income; less savings, slow formation of capital for investment, concentration of capital in fewer hands etc.,

(c) **Labour:** Over population results in unemployment, underemployment of people in the working age which in turn increases the dependency ratio and in child labour, fewer jobs with good prospects for people in lower socio-economic strata.

(d) **Industry:** Over population results in proportionately fewer options for teaching modern technology; greater dependance on foreign investment in industrialization; need for industrial development for providing jobs to a growing population; increased pollution.

(3) ON STANDARD OF LIVING:

(a) **Food:** The requirement of food increases every year. Per capita availability of food decreases.

(b) **Prices:** There will be a steep hike in the prices due to considerable gap between demand and supply.

(c) **Nutrition:** For such an increasing population providing nutritious food becomes very difficult and quality control also becomes a stupendous task. Malnutrition and under nourishment lead to many problems.

(d) **Housing:** People without a shelter increase and hence increasing the number of people spending nights on pavements. Slums increase in number.

(e) **Health:** Health depends largely on the food the people eat and the environment they live in. The average Indian food lacks in body-building elements and therefore, most people

have poor health and become easy victims of diseases.

(f) **Education:** Illiteracy is a curse on society. The educational situation tends to become more and more serious every year, and it fails to keep pace with the population growth. Because of such huge growth in population, the schools become overcrowded, because of which quality cannot be maintained. The students with the present picture of insecurity and unemployment after education, hardly feel interested to pursue studies.

(g) **Power:** Electricity is an essential facility needed by people in any country. Inspite of massive investment in this sector, still many villages are not fully electrified.

(h) **Transport:** Even though it is clear that the route length of the railways as well as surface roads has increased, yet we can witness everyday congestion in trains and buses, long ques outside ticket sale windows and reservation offices. This helpless situation is brought about by rapid increases in population.

(i) **Water Supply:** Because of increasing population the Governments are failing to provide the people with sufficient drinking water.

(4) ON ENVIRONMENT:

(a) **Pollution of Air:** Because of huge population, industrial establishment increases and the smoke and dust released from these sources pollute air. Added to this, the increasing number of vehicles, open drainage system, slum area also become responsible for further pollution.

(b) **Pollution of Water:** Most factories release their waste materials into rivers which results in water pollution.

(c) **Pollution of Surroundings:** Due to water and air pollution the whole surrounding is affected.

(5) ON RESOURCES:

(a) **Human:** For the improvement of any country its man power is responsible India possesses

maximum manpower but only in quantity due to malnutrition, lack of adequate medical facilities etc.,

(b) **Natural Resources:** Because of huge growth in population the mineral resources are rapidly exhausted. Intensive communication improvement needs huge quantity of diesel and petrol, deforestation for the rehabilitation etc., All these have direct impact on the natural resources.

(6) SOCIO-CULTURAL FACTORS:-

Society is becoming a complex pattern with more number of people, the whole social order has been disturbed. Corruption and character crisis has been a spectacular phenomenon in India. Education has failed to humanise the people and such people contribute to destroy the rich tradition of our country with populaiton explosion. Culture is receding from its true sense of the term. People turn fanatic with the issue of religion, language etc., with such character crisis, even politicians never think for the larger interest. We have these because of too many people.

(7) PER CAPITA INCOME REDUCES:-

As the number of people increases the number of dependents also increase. Due to un-employment problems and underemployment percapita income reduces. This leads to low standard of living.

******

Chapter 7

National Population Policy of India

The Government of any country is committed to the improvement of the quality of life of the people of its country. The increased growth of population affects the economic and social development of a country and pose a serious threat to the realisation of socio-economic goals planned by the leaders. To achieve the planned things in the above conditions one of the means is through population policies and programs as it is expected that a national policy or programme would limit and control the family size. Any policy of a nation which is aimed at the welfare of its people are population policies. The Population Commission of the United States defines population policy as:-

> "..... measures and programmes designed to contribute to the achievement of economic, social, demographic, political and other collective goals through affecting critical demography variables, namely the size and growth of the population, its geographic distribution (national and international) and its demographic characteristics....."

S.Hartley defines Population Policy as:-

> "the legislation intentionally designed to influence one or more aspects of a nation's population".

International Encyclopaedia of the Social Sciences defines population policies as:-

> "..... legislative measures, administrative programmes, and other governmental action intended to alter or modify existing population trends in the interest of national survival and welfare".

Operationally, a Population Policy is a set of goals and guidelines for changing the rate of population growth in the vital interest of a country. A Population Program is a planned activity to realize the goals expressed in the Population Policy of a Country.

In India, population policy is oriented toward restraining the rate of increase, on behalf of economic development and of raising the level of living of the people.

The population problem in India was recognised in 1951 and the family planning programme was started on an experimental basis in the fifties with a clinical approach to provide services to those who were so motivated. The family planning programme includes family limitation and reasonable spacing of children, treatment of sterility, marriage counselling and guidance, family life education and others which contribute to the overall welfare of the family. As Lydia Report states,

> "One key concept is the regulation of fertility by preventing unwanted pregnancies, by spacing the number of children desired. This gives families a control over their reproductive functions and enlarges their capacity for choice and self direction in individual and private family goals....."

Family planning objectives include not only conception control but also help with problems of infertility, although this dimension is underplayed in actual practice. Thus, family planning deals with the promotion, postponement and prevention of conception.

The present family planning movement in India was the result of the efforts of a number of social reformers, thinkers and voluntary organisation. Prof. Ragunath Dhando Karve was the first to open a family planning clinic in India in 1925. On June 11, 1930 the Mysore Government issued an order for setting up birth control clinics in Victoria and Vanivilas Hospitals in Bangalore, and in the Krishnarajendra Hospital in Mysore. In 1932, the senate of the Madras University accepted the proposal to give instructions on contraceptives. The National Planning Committee, under the Chairmanship of Sri.Jawaharlal Nehru, set up by the Indian National Congress in 1935, strongly supported family planning. In 1939 the "Birth Control World-Wide" in Uttar Pradesh and Matru Sewa Sangh, Ujjain, in Madhya Pradesh opened birth control clinics. In 1940, Sri. P.N.Sapru successfully moved a resolution in the Council of States for the establishment of birth control clinics. In the final report of the Famine Enquiry Commission set up by the Government of India in 1943 stated that,

> "At the present time a deliberate state policy with the objective of encouraging the practice of birth control among the mass of population is impracticable. All fall in birth-rate will tend to follow rather than precede economic betterment. This was the situation just before the country became independent".

After independence, in 1949 the Family Planning Association of India was formed in Bombay under

the presidentship of ShrimatiDhanvanthi Ram Rau. The Government of India took a courageous stand on therapidly growing population and displayed great foresight by adopting family planning as an integral part of its overall national development programme. The Government of India was the first in the world to support a national family planning programme and to adopt family planning as a State Policy in 1952.

The following table provides information regarding the years in which different countries adopted National Population Policy:-

Table-7

TABLE SHOWING THE YEAR POPULATION POLICY WAS ADOPTED IN DIFFERENT COUNTRIES

Year	Country
1952	India
1960	Pakistan
1961	Korea
1965	Singapore, Srilanka, Egypt, Mauritius
1966	Malaysia, Nepal, Kenya
1968	Indonesia, Papua New Guinea, Dominican Republic
1969	Ghana
1970	Philippines, Thailand, Colombia, Baltimore, U.S.,
1971	Bangladesh
1972	Paraguay
1974	Elsalvador, Mexico
1978	Sierra Leone
1979	Chile
1986	Nigeria

The first plan (1951-56) advocated the need for reduction of the birth rate to the extent necessary to stabilize the population at a level consistent with the requirements of national economy. It directed that the family planning programme in India should:

(1) obtain an accurate picture of factors which contribute to rapid increase of population;

(2) gain fuller understanding of human fertility and the means of regulating it;

(3) devise ways of educating the public; and

(4) make family planning advice and service an integral part of the services in hospitals and rural medical centres.

For the family planning programmes Rs.65 lakhs were alotted during the First Plan Period. 147 clinics were opened and 205 clinics maintained by different organisations were given grants by the Central Government.

The Second Plan (1956-61) emphasised on

(1) the use of mass communication media;

(2) provision of clinical referrel services in Urban and Rural areas;

(3) training of personnel;

(4) provision of supplies; and

(5) research.

For the Family Planning Programme Rs.497 lakhs were provided out of which only Rs.216 lakhs were spent. Out of the fixed target of opening 2500 clinics - 2000 in rural and 500 in urban areas only 1502 clinics - 1079 in rural and 423 in urban areas were opened. Family Planning services were provided at 1864 rural and 330 urban, medical and health centres. During this plan period of the basic clinic-oriented approach of previous years was replaced by an extensive community level educational approach in an effort to reach the rural population. A more vigorous action-cum-research programme was undertaken during this period.

In the Third Plan (1961-66) the Family Planning Programme Provided for:

(1) education and motivation for family planning:

(2) provision of services;

(3) training;

(4) supplies;

(5) communication and motivation research;

(6) demographic research; and

(7) medical and biological research.

Out of the allotted sum of Rs.27 crores only Rs.24.86 crores were spent. For the effective planning and execution of the programme, Department of Family Planning was created in 1966 and in the Ministry of Health and Family Planning. In the extension approach messages, service and supplies of contraceptives were taken to the people.

In the 1966-67 Annual Plan Rs.2900 lakhs were provided and the number of persons sterilized during this period were 9,24,612. During the 1967-68 Annual Plan a sum of Rs.3100 lakhs were allotted and in this period 18,39,811 persons were sterilized. During the 1968-69 Annual Plan a sum of Rs.3700 lakhs was provided and the number of persons sterilized during this period was 16,64,817.

During the Annual Plan of 1969-70, Rs.4200 lakhs were allotted and the number of persons sterilized was 13,96,729.

During the Annual Plans Family Planning was given a crucial importance which can be understood from the above budget allottment and the outcome.

In the Fourth Plan (1969-74) Rs.330 crores were provided for family planning. It was estimated to bring down the birth rate of 39 per thousand in 1969 to 25 per thousand by 1980-81. The emphasis was laid on;

(1) directing efforts to secure social acceptability for a small family.

(2) increasing the information and knowledge of the people about family planning devices and

(3) making available the necessary devices and equipment for this purpose.

To achieve these the family planning services were integrated with those of general health, maternal and child health services. Another significant

feature of the Fourth Plan was the Medical Termination of Pregnancy Act, 1971, which came into force with effect from 1st April 1972. Its implementation has benefited the family planning programme indirectly. The Department of Family Planning of the Ministry of Health formulated rules on 19th February 1972. During the Fourth Plan period, out of a total of about 100 million couples, in the reproductive age group, only 16-17 million are estimated to have been protected against conception by the end of the plan period.

The Fifth Plan (1974-79) provided an allottment of Rs.516 crores for the implementation of the Family Planning Programmes. The plan had set a goal of reducing the birth rate from 36 per thousand to 30 per thousand over a five-year period. It was estimated to increase the current 16-17 percent of couples protected against conception to 33 by 1978-79. The programme made spectacular progress during the emergency period and it achieved a total of 8.2 million sterilizations during 1976-77 as against the target of 4.3 million.

The Sixth Plan (1980-85) had the following targets:

(1) to reduce the birth rate per thousand population from 33 in 1978 to 21.

(2) to reduce the average size of the family from 4.2 children to 2.3 children.

(3) to protect 60 percent of the eligible couples with family planning.

(4) to reduce the death rate from about 14 in 1978 to 9 per thousand.

(5) to see that the population of India will be around 900 million by 2000 A.D.

During this plan a sum of Rs.1,010 crores was allotted for Family Planning. The Sixth Plan calls for the revitalisation of the family planning programme through education and persuation, and building of the small family norm into the social and cultural ethics of the people. For the implementation of the program cent percent Central Assistance is provided and in the rural areas, the program was extended through primary health centres and

sub-centres. The programme was implemented through 5,428 rural, 1,766 urban family welfare centres and 57,638 sub-centres. Other than these 5,780 other institutions also rendered services.

The Union Health and Family Planning Minister announced the National Population Policy on 16th April 1976 and the salient features of which are as follows:

1. The Government proposed legislation to raise age of marriage to 18 for girls and 21 for boys.

2. Raising monetary compensation from 1st May 1976 to 150 for sterilization (by Men or Women) if performed with 2 children, Rs.100 if performed with three living children and Rs.70 if performed with four or more children.

The Janatha Government which came to power in March 1977 formulated a new Population Policy which declared that compulsion and pressure of all sorts must be ruled out from the family planning programme and renamed it as Family Welfare Programme. The salient features of this Policy are:-

1. The parliament has approved the child marriage Restraint (Amendment Bill, 1978,) fixing the minimum age at marriage 21 years for boys and 18 years for girls.

2. The programme for immunising children against common diseases like whooping cough, diphteria and tetanus would be expanded.

3. **Steps would be taken to see that the young got population education as part of their normal courses of study.**

4. The Government would invite suggestions from the voluntary organisations and public bodies engaged in the general task of family welfare for evolving suitable patterns of co-operation and assistance.

5. The Government would pay special attention to the necessary research inputs in the field of reproductive biology and contraception.

6. The performance of the States on the family welfare front would be intensively maintained

and the centre would review the situation in depth at least once a year. Suitable machinery for ensuring co-ordination with other connected programmes of welfare might be set up in the states also.

7. In order to ensure a purposeful implementation of the family welfare programme, the principle of linking a percentage of Central Assistance to the states plans with their performance in family welfare programme would be continued.

Thus, it is evident that Population Policy in India continues to be pragmatic and utilitiarian, aiming at securing benefits to the individual, family and the nation at large, not withstanding hindrances in its effective implementation.

****

Chapter 8

Popluation Programmes in India

India adopted Population Policy as early as 1950 and the population education was first discussed in India in the last 1960s. The National Seminar on Population Education was convened in Bombay on August 2 and 3rd of 1969. It was sponsored by the Ministry of Health and Family Planning. As per the recommendation of the National Seminar the National Council for Education Research and Training (N.C.E.R.T.) was responsible for establishing a "Population Education Cell" concerning with developing curriculum in the area. This cell works in close collaboration with the Central Health Education Bureau and the Central Family Planning Institute.

After the 1969 Seminar, planning and adminstration of population education efforts were assigned to population education cell within NCERT. Discussions of population education continued throughout the 1970s but without serious efforts to establish pilot programmes in schools. In the last 1970s the Ministry

of Education and NCERT began making plans to introduce population education in all Indian schools except in the most remote states and territories. The Board of Secondary Education in states responsible for prescribing the courses of study, decided in 1978 to include population education in schools and in teacher training institutions.

N.C.E.R.T. is working in co-operation with the Regional Office of the UNESCO. It has published valuable instructional materials clarifying the concepts of population education for providing guidance to the personnel connected with the programme in the states. The population of India in 1981 was 683 million, with about 151 million children in the school going age-group of 6-18 years and about three million teachers. N.C.E.R.T. is working with international agencies like UNESCO and UNICEF in the field of population education. Under the Regional Colleges NCERT works through seminars, workshops, conferences and orientation programmes involving large number of teachers, teacher educators, and others. Regional Colleges have introduced population education subject in their Teacher Training Courses. The Regional College of Education, Mysore has published a population education manual for teacher educators, and this college has been conducting Training Programmes in population education for southern states. Now the population education cell of NCERT is working as a clearing house and a documentation centre for the benefit of University and training Colleges.

The UNFPA and the Government of India jointly organized an innovative nation wide competition in which children were invited to express their ideas about the population situation in the form of paintings. After the national level selection, some of the selected paintings were brought out in the form a book. This reveals the often unique perception and sensitivity of the young students to the population situation and perhaps, indicates that the message of population education is being effectively conveyed.

Sample curriculum outline and guidelines for curriculum planning, published throughout the 1970s, can be adopted for state use. Most of these publications follow the UNESCO-Asian pattern of identifying major population concepts and their sub-concepts

and then describing how they can be integrated into established school programmes. So far, teacher training in population education is available in only a few Indian Universities. In India, the State Governments mostly look after school education. There are about 7,50,000 schools in India with the student population of about 125 million. There are about 1,500 teacher training institutions in the country of which about 1,100 are for the training of elementary school teachers and about 400 for the training of secondary school teachers. It is proposed to convey population education messages in universities through foundation courses, to all graduate students, through population education and through the extension and social service programmes of the universities to the local community.

For Instance, Sri.Venkateshwara University in Tirupati (which has a population studies centre) has included population concepts in some courses. At present, the 19 states involved in the UNFPA-funded programme are planning comprehensive training programmes for their teachers.

Materials developed by NCERT, Sri Venkateshwara University, and the Family Planning Association of India include source books on general population issues as well as source book relating population to nutrition and to the quality of life. A bibliography of population and population education readings and some sample teaching materials also have been prepared. Most teaching materials were designed for secondary school use and often consist only of simple suggestions for classroom activities or short objective tests. One of the few teaching aids designed for primary school classes is the collection of stories, poems, and short lessons about population and family life. Evaluation in the 1970s was focussed on population awareness and attitudes towards population education among students, teachers, and parents and on family size preferences of children. These studies indicated that surveyed students, teachers and parents were aware of India's population problems and generally approved of discussion of problems in schools. Despite this awareness, most students and teachers wanted three or more children. In addition, many teachers did not feel qualified to teach about population.

The Indian Government and UNFPA agreed on a three years $5,32,000 (U.S.) programme beginning in April 1980. Workshops and a survey of state population education activities were carried out to evaluate programme needs. The objectives of the programme include establishing state population education centres, developing prototype curricula, publishing a quarterly newsletter, and preparing instructors to train classroom teachers in states Ten states began implementing the project in 1980, and nine more states began in 1981.

In 1982-83 the University Grants Commission (UGC) issued a circular recommending foundation course in population education and establishment of population education cells in all institutions of higher education. At present Smt. Nathibai Damodar Thackersay University, Bombay; Gujarat Ayurved University of Jamnagar; Osmania University, Hyderabad; Jamia Millia Islamia University, New Delhi; Sri.Venkateshwara University, Tirupati; Utkal University, Bhubaneshwar; M.S.University, Baroda; Gujarat Vidyapith and some other universities have established population education units for implementing population educationin school and out-of-school sector.

The Third Indian Population Project (1984-89) has selected Belgaum District, Bijapur District, Dharwar District, Gulbarga District, Bidar District and Raichur District from Karnataka State. Population education programme is given priority in this Third Population Project. At the state level in Karnataka, there is a population cenre in the DSERT and at the regional level there are two regional population education centres at Karnatak University, Dharwar and the other at Government College of Education, Gulbarga in the State of Karnataka. At the district level, in each district a population education centre is being established in one of the primary teacher training Institutions. The work at all these levels is directed by the Director, DSERT. The total estimated expenditure of the Third Indian Population Project is Rs.71.31 crores, out of which 48 percent of the project's expenditure is shared by the World Bank in the form of loan, 39.5 prcent by the Government of India, and the remaining 12.5 percent of the projects expenditure is donated by the state governments. Out of this for population education

programmes an estimated amount of Rs.60 lakhs is reserved for the complete plan period.

In the state level the SERTs and the Family Planning Associations of India's State Branches are promptly working in this new field of education. Most of the States Educational Research Training Institutions have established population education units in their organizations. These units are working both in School and out-of-school Sectors. The DSERT of Karnataka has published population education learning materials in Kannada version for primary secondary and T.C.H. levels.

In the field of out-of-school population education the S. V. University, Tirupati and Madras Universities have special programmes for field extension workers. The Ministry of Education and Culture through its Institutions like NCERT and the Directorate of Adult Education is mainly offering programmes of non-formal education for the 9 to 14 age group and adult programmes for the 15 to 35 age group. Under the new population education strategy, the Directorate of Adult Education has set up a separate population education unit with a nucleus staff. Efforts are being made to establish population cells in the State Resource Centres. These cells are developing curriculum in different types of non-formal education programmes, preparation of materials both printed and media. The Central Board of Workers Education, The National Co-operative Union of India, The Literacy House, Lucknow, The Integrated Child Development Service Scheme and the Planning for rural and urban integrated development have integrated population education in their programmes.

Realising the gravity of the population situation, the Government of India launched a National Population Education project on 1st April 1980, with the Financial Assistance of UNFPA and technical assistance from UNESCO. The first phase of the project has been completed and the second phase for the period of 1986-90 has been started. The department of Education in the ministry of Human Resources development is responsible for implementation of the population education project in the education sector. The population education project has three main components. The first in the schools and non-

formal sector, the second in the Adult Education Sector and the third in the University Sector.

In the first phase, 21 states and Union territories have prepared curricula and 15 states have prepared textbook lessons on population education. In this phase, about 44 million children, which is roughly half of the school going population in the country, have been exposed to population education idea. About 26,000 key persons and 400,000 teachers have been oriented in the special short-term courses. In the First phase, the project covered classes I to X.

The second phase of the population education project for the period of 1986-90 is not large in terms of money but its objectives are ambitious and the targets are very large for covering school population, the adult population and the University population.

In the second phase, classes XI to XII are being brought under the project. In this phase, the proposal, is to cover concepts of family size, delayed marriage, responsible parenthood, etc., in a more direct and detailed manner. In this phase, the teachers involved earlier will be covered by short-term orientation courses and the attempt is to expose the new teachers to the population education in their pre-service training.

****

Chapter 9

Developing a Curriculum for Population Education

Developing a curriculum for population education is a difficult task. There are different approaches and as a result there are different programmes. Every aspect of development of population education programmes from formulation of objectives, to evaluation involves several questions. Within the programmes themselves there are several methods which are in use. There is no consensus regarding the effectiveness of this method or that. Added to this there are no enough empirical research studies to support the claim in favour of a particular method. The area of research in population education has also not developed to answer the methodological questionsthat are quite often raised.

The failure of family planning programmes to influence the adult population lead the develop-

ment planners and decision makers to argue that younger age groups are more appropriate educational targets. Thus, schools became the obvious places to start. Educators evinced a lot of enthusiasm to include current issues of importance and utility into the school curriculum. Arguments were put forward in favour of population family life education. As a result school programmes of population education started emerging. The first national school programmes began in Asia. In India it started in 1969. In the beginning there was no clarity in the educational programmes. The curricula were abstract and away from student's life situations. The emphasis was on discussing the population problem at the macro level rather than the micro level. Added to this, often population was considered as a euphemism for sex education. Regarding the content, it was erroneously considered that human reproduction and method of contraceptions should be included. Later, the priority fields and the objectives of population were identified in the meeting of experts of population education held at Santiago in 1970.

During the mid and late Sixties population education programmes were mainly in-school programmes. The out of school programmes which were existing during that period addressed themselves to adults and their management of fertility problems. The history of development of population programmes for out of school youth will be dealt within a separate chapter. During these days the emphasis has shifted from macro level to micro level. The theory and practice of population education have undergone a significant change. There is an increasing awareness that a considerable amount of population education goes on outside the institutionalised formal educational settings. As a result population education has become wide in nature and approach demanding the necessity for institutional links and the need for relating and coordinating and efforts. This also necessitates national planning involving all the sectors involved.

Formal and Non-formal Population Education

Many countries with national population programmes consider population education as a part of a total curriculum activity. Varieties of procedures are used to structure teaching and learning methods

are many in number both in-school and out-of school population education programmes.

Formal Education

Formal education means the education imparted in the formal system of education. It is necessarily organised by the State itself.

The main objective of formal education is to impart knowledge, teach skills and help in the cultivation of values. The formal system of modern education is comparitively recent and the major characteristics of the education are below.

The formal school is intrinsically organized to teach something and it is round specific purpose that everything goes organized, and it is meant for essentially non-workers i.e., children and youth and its work is fulltime. The programmes of formal education are necessarily organized through the school which is a specialized institution for imparting education. The formal school on the whole, tends to be dominated by concepts of uniformity and rigidity, and the costs of formal education. Programmes tend to be on the high side because of professionalized and full time staff etc., In the formal sector of population education countries have generally followed a more or less basic set of procedures for developing their curriculum materials.

Non-formal Education

Non-formal education is any systematically planned and organized educational activity/programme carried on outside the framework of the formal school system to provide selected types of learning to particular sub-groups in the population, especially to the out-of-school children, youth and adults.

Non-formal education covers all the three educational objectives of imparting knowledge, teaching skills and promoting values and the central point is learning, either by oneself or group. Non-formal education programmes are basically meant for working group people and therefore part-time. Here students learn from each other while the teacher merely acts as the facilitator. Programmes of this education build round almost all community organizations/institutions such as farms, factories, shops, libraries, museums,

drama, youth clubs etc., and these programmes are more diverse, flexible and elastic in nature and the activities are voluntarily accepted by the people. The costs of non-formal education programmes are cheaper than formal education.

In the non-formal education sector, population education messages are invariably integrated with on-going development programmes. This is partly because of the recognition that out-of-school youth and adults are confronted with more basic problems and needs and population education is often seen as providing an immediate solution to their pressing problems.

Curriculum Development Process in Population Education

The term curriculum in its broadest sense refers to all the planned learning activities or experiences provided by all educational programme to a group of learners or targets audience. In its narrow sense curriculum may refer solely to the core contents or content outline of a particular programme or field.

Feyereisen (etal.,1970) defines curriculum as "including all the learning experiences provided, the learner under the guidance and direction of the school through which it expects to achieve its objectives".

According to Mccleary and Hencly (1965): "Curriculum means content organized into subjects or the planned programme of teaching and learning in each discipline".

According to Prof.Seshadri (1965) curriculum constitutes "the means through which the ends of education are achieved, curriculum refers to the totality of activities and experiences planned by the school with a view to achieve the objectives of education".

According to Prof.Mehta (1974) four steps can be followed in the process of curriculum development in population education.

The first step is to formulate objectives. To do this critical study of the present curricula should be undertaken first. This will provide background

and the inherent objectives of the school programmes and also some ideas as to what could be done within the existing framework of the school curricula.

The second step is to select the content that will attain these objectives. This means the identification of concepts, information and facts relevant to population problems, population dynamics and their effects on the life of the people, the nation and the world. Because of the nature of the objectives of population education, it must draw for its content upon the relevant concepts from academic disciplines such as demography, economics, civics, sociology, health education and biology.

The next step is the preparation of instructional materials for the use of teachers and students. This may take the form of text books, handbooks for teachers, supplementary reading materials or audio visual aids such as charts and films. In the production of these materials, it will be advisable to involve different types of experts in different fields.

The Fourth step is to incorporate population education into the school curriculum. This can be done by infusing population education concepts into various appropriate subjects offering a separate special course on population education. Arguments in favour of infusion are that the curriculum is already over crowded and children will learn better if they are confronted with relevant population materials throughout their entire period of schooling.

According to the UNESCO source book, the design of the curriculum development in population education consists of the following main components:

1. Defining goals of population education.
2. Defining conceptual framework.
3. Identifying population education related subjects for each grade.
4. Developing scope and sequence of population education concepts.
5. Developing instructional materials for teachers and students.

6. Integration of population education.
7. Evaluation of curriculum and materials.

The term curriculum is usually associated with formal school system. But now a days the tendency is to use the word curriculum interchangeably with a programme which is used in the case of out-of-school sector. Whether planning a curriculum for an in school or for an out-of-school programme, the curriculum development follows seven general steps (UNESCO 1981). These are:-

Step-1:- Situational analysis and problem identification.

Step-2:- Defining educational objectives.

Step-3:- Elaborating content areas.

Step-4:- Identification of Teaching methods and learning experiences.

Step-5:- Sequencing learning units and developing prototype curricular materials.

Step-6:- Interpreting tryout results and revising the curriculum materials.

Step-1:-Situational Analysis and Problem Identification

In this stage the interdisciplinary group of curriculum developers will study the needs of and and characteristics of the target audience as well as the situations in their community through different means. The information or data collected are analysed to identify their priority needs and problems, and the resources avialable in the community.

Step-2:- Defining Educational Objectives

General and specific objectives are formulated as the basis of the needs and problems of the target audience. The specific objectives are the expected behavioural changes in the learners and target group which should be stated clearly and in observable and measurable terms. These educational objectives should contain three essential components, namely; the audience to be reached, the behavioural change in knowledge, attitude or skill and the content or subject matter.

Step-3:- Elaborating Content Areas

In this step, the major content areas for a particular programme are selected and then expanded into sub-topics. They are then arranged in a logical or psychological sequence. The objectives provide the basis for the selection of the content areas.

Step-4:- Identification of Teaching Methods and Learning Experiences

To carry out the objectives in a most efficient and effective manner suitable teaching methods and learning activities are selected. They should provide for maximum participation of the learners and be interesting enough to hold their attention. Added to this they should be practical and ensure the utilisation of locally available resources.

Step-5:- Sequencing Learning Units and Developing Prototype Curricular Materials

In this step, the selected learning units or content areas are arranged sequentially and they now become the content of prototype or sample curricular materials which may be developed in any type or format. Pretesting or trying out these curricular materials to a sample of the intended target auidence is important to determine their potential effectiveness.

Step-6:- Interpreting Tryout Results and Revising The Curriculum Materials

In this final step, the tryout results are analysed and interpreted. This helps to identify the components or parts of the materials that need to be revised or dropped entirely in order to improve them. Then the corresponding revisions are made. When materials are ready to be adopted for use, they are reproduced in sufficient quantity and distributed to the intended use.

This curriculum is not the final. After its implementation continuous feedback from the users of this should be gathered by the curriculum developers. This feedback should determine the need for the periodic revisions. Thus the curriculum development in population education becomes a continuous and dynamic process making provision for life-long learning.

Approaches to Curriculum Construction

The structure, approaches and strategies to population education programmes are unique to each country. Population education, being of recent origin, has no clearly marked content boundaries. The problem of over crowded curriculum makes it difficult to establish population education as an independent subject in schools. The countries have therefore used an integration approach to include population education concepts in different subject areas. Integration of population education in school subjects takes three forms, namely the sub-unit approach, infusion and permeation.

(a) SUB-UNIT APPROACH:-

This approach involves the preparation of teaching units to be added to an existing unit in the course of syllabus of the subject area which is used as a carrier for population education. This is being followed by countries such as Philippines, the Republic of Korea and Thailand.

(b) INFUSION APPROACH:-

This involves enriching and expanding existing units in the syllabi of the "accomodating" subject area to include population education related ideas. It substitutes examples into already existing materials to illustrate a new point or a new approach adopted in the teaching of population related topics in existing syllabus. Through the substitution of examples, the education content remains the same; only the substance of the example changes. This approach is being used in many countries in combination with other approaches of integration.

(c) PERMEATION APPROACH:-

The curriculum of selected subjects is overhauled to allow for the permeation of relevant ideas. This allows for full integration of the population education content in the curriculum thus making it an integral part of the subject matter content of the said subject.

The countries in Asia having national population education programmes have used integration approach and have followed more or less similar design for developing curriculum in population education.

There are four essential arguments for the integration or infusion approach:

1. The already overcrowded curriculum that made new, discrete, self-contained single courses impracticable;
2. The feasibility of using the same teachers instead of hiring additional ones;
3. The assumption that content spread throughout the entire period of schooling would create more impact than a single one-shot course,
4. The pre-existence of some population content in the five selected mother subjects (Social Studies, Science, Mathematics, Health and Home Economics) making them a good setting for teaching population education concepts without breaking the continuity of instruction.

Among all approaches, infusion or integration approach has several advantages. It does not require any separate period and separate teacher. In this approach the concepts of population education are integrated with existing lessons without distorting the curriculum. This approach generally calls for three stages. Firstly the identification of relevant population education concepts and the plug-in-points in various topics. Secondly, the selection and sequence of appropriate learning units. Finally the preparation of detailed textual or audio-visual materials for use in the teaching learning process. Unless the plug-in-points in the programme are related to the population education concepts to be integrated, the coherence and unity of the newly developed integrated curriculum will suffer.

Integrating a unit or topic into a related unit or topic would require certain skills on the part of the teacher or curriculum developer. First he has to know the learning objectives and content of population education that will be appropriate for the particular grade/year level and subject area wherein population education is to be integrated or permeated. Once the population education objectives and topics have been identified and determined, the next thing to do is to find appropriate entry points or topics/units in the syllabus of the subject wherein the identified objectives and topics would

fit and thereby enrich, supplement or expand said topics. The entry point could be in the beginning, within or end of a unit wherever the relationship between the new content and the accomodating content can best be shown. Finally, the new content should be reflected or included in the accomodating subject area. It is not possible to rewrite/revise the whole syllabus to reflect the integration of units or the permeation of topics, the next best thing to do is to prepare supplementary course guide containing the integrated units or lesson developed along the same pattern of development as the mother lessons.

Although the integration approach has been used in all the countries in Asia having population education programmes, it has been felt that population education concepts tend to be lost in the process of integration and whole purpose of population education gets diffused. Partly because of this reason, some countries have started thinking of introducing population education as a separate course at the secondary and tertiary levels. Participants in the UNESCO Regional Consultative Seminar on Future Directions of Population Education held at Manila in 1978 have expressed the same view.

Guiding Principles For Good Package of Learning Materials

According to the UNESCO Regional Workshop Report 1984, the guiding principles of a good package of learning materials for both formal and non-formal population education are as follows:-

(a) It should help realise the country's population policy and goals within the broader framework of socio-economic development;

(b) It should be relevent to the needs and aspirations of the specific target audience as these relate to population issues and the improvement of the quality of life of the people;

(c) It should equip individuals to help make rational decisions to cope with population related issues and problems;

(d) The content should comprehensively cover the core messages of a country's Population Information, Education and Communication (IEC) Programme. In the development of the core

messages, the pros and cons of population issues should be presented, supported by studies and should not be propaganda or indoctrination oriented;

(e) The population knowledge base of the package should be accurate up-to-date and convincingly presented so as to generate desirable attitudes and values regarding population problems and issues;

(f) It should provide for graphic and visual illustrations; and

(g) It should provide for assessment of effects on the target groups.

In addition to the above principles, the above mentioned workshop made some guiding principles to formal and non-formal population education specifically.

Guiding Principles for Formal-Population Education

(a) It must logically fit in the syllabi of relevant school subjects.

(b) The textual materials should preferably form a chapter or two of the text book of relevant subjects or a required supplementary reader. The textual materials should be complemented by other support materials; and

(c) In developing the package, the principle of graduation should be kept in view.

Guiding Principles for Non-formal Population Education

A good package of learning materials in non-formal population education should observe the following principles:

(a) An integrated curriculum for the development of the package should be based on the needs/problems and characteritics of the target audience.

(b) The package should be flexible, suited to local conditions and make use of available local resources.

(c) Its development should be interdisciplinary, and;

(d) Its development should be a continuous process.

****

Chapter 10

Techniques and Methods of Teaching Population Education

Content and method are the two main components of teaching. They are like the two faces of the same coin. To achieve any educational purpose there should be a suitable strategy of teaching besides an appropriate content. There are many approaches to teaching which can be used in the classrooms. With the help of these approaches the learning environment can be transformed into a better one. All these approaches of teaching aim at creating better learning environment. The New Education Policy of 1986 also speaks of creating a better learning environment for the students. As Joyce and Weil (1980) point out;

> "Competence in teaching stems from the capacity to reach out to differing children and

> to create a rich and multidimensional environment for them. Curriculum planners need to design learning centres and curricula that offer children a variety of educational alternatives. Makers of instructional materials need to create more interesting and effective books, films and other learning sources..... We believe that the world of education should be a pluralistic one- that children and adults alike should have a cafeteria of alternatives to stimulate their growth and nurture both their unique potential and their capacity to make common cause in the rejuvenation of our troubled society".

Teaching population education in the schools is not an easy task. Many scholars have attempted to identify the most effective teaching strategies that can help in increasing knowledge, attitudes, behaviours and skills of students as well as of teachers. Earlier it has been pointed out that population education is altogether different in objectives and contents from the other disciplines that are taught in schools. In population education it is not just enough if knowledge aspect alone is considered. More than the knowledge the stress should be on attitudinal and behavioural aspects.

The subject matter of population education is controversial. As a result one has to face many issues regarding the ethics and values. Much care has to be taken while making choices and decisions. Population education aims at creating an awareness in the people about the processes of population change which affect the quality of life. In trying to achieve this goal it is not enough if only demographic data are taught to the students. Population education should also help the student to develop rational and responsible attitudes and behaviours.

As the subject matter of population education is controversial, the students cannot be supplied with standardized readymade answers which they can use. While teaching population education emphasis should be on explanation of alternatives. The students cannot remain passive and receive readymade answers from their teachers. An opportunity must be given to the students to explore their thinking, feelings

and value structures on different aspects of population phenomenon. Teaching should become a process in which teachers and students share an environment through which both of them will be benefitted. Through this shared environment their personalities must grow. In such a learning environment the students would learn to make responsible decisions on their own regarding many questions of life.

The population education programmes placed great emphasis on the process of learning. This process aims at developing the type of students who can understand, observe and predict the meaning of changes in the population. They will be able to understand the consequences and the determinants of population change. As a result of this understanding and predicting behaviour they will be able to logically think of the alternative ways and means of controlling the population growth. In essence the students will be learning to learn about population In this process the students will internalize the concepts of population education and will develop positive attitudes. This would help them in future to act positively when they become adults.

There are a number of teaching methodologies, strategies and models of teaching which have been used to teach population education. They range from traditional expository method to value clarification approach. The methods of teaching may be traditional expository method or non-traditional teaching methods such as inquiry or discovery approach, self-instructional modular approach and values clarification. Several informal methodologies like role-playing, problem solving, debates, discussions, games, simulation and audio-visual approach are also used. Often in several countries a combination of these methods is also used.

The very nature of population education is problem oriented and value laden. Therefore, whatever may be the method that is used to teach population education the emphasis is on students participation. Taylor and Hamal (1974) write that if population education is to be relevant in a student's life there is a need for conceptual learning. According to them,

".....if the purpose of population

education is to mould children's attitudes for later acceptance of family planning....., then this is not efficiently done by merely changing the content of the existing curriculum to include population education. The whole learning process must be reformed"

Beeby (1966) points out that the pupils from traditional societies learn little in school regarding modern concepts; at best they learn manners, aspiration and rules. Poffenberger (1971) shows how little population education occured within a traditional curriculum among Indian adolescents and the greater importance of other educational factors in the students environment for improving this education.

The different methods that have been used to teach population education can be classified as follows:

1. Values clarification approach
2. Inquiry oriented or discovery approach.
3. Self-instructional modular approach
4. Computer assisted instruction.
5. Audio-visual approach.
6. Informal methods:-

    a) Games/Role-playing
    b) Debates and discussions
    c) Simulation.

Meaning of Values

Values influence the behaviour patterns of an individual. They are standards, criteria, or rules which give direction in determining how people act. They are reflected in specific value judgements or claims people make and on the worth they place on the different aspects of life. Values are the final goals of all our intentions. They are things we have chosen and affirmed through consistent action. One's goals, aspirations, beliefs, and convictions, interests, attitudes and feelings are termed as "value indicators" and it is important to identify these value indicators because values often develop from them. As class-room teachers one has to help

the young students to raise the value indicators of their choice to the level of values.

Defining values in a descriptive fashion is a herculian task. Values are not the same as needs or desires. They are not motives. Values are not the same as norms for conduct. According to the Encyclopaedia of Social Sciences, "Norms are rules for behaving; they say more or less specifically what should or should not be done by particular types of actors in given circumstances. **Values are standards of desirability that are more nearly independent of specific situations.**

Louis Raths enlists the following five criteria for values:-

(1) ,A value implies prizing and cherishing.

(2) A value implies choice after deliberation. It involves answering the question; should I choose this? This involves the anticipation of consequences and a reflection upon the desirability of the choice.

(3) A value - as such - implies recurrence of valuing act.

(4) ,A value penetrates our living, and finally;

(5) When asked or challenged about our values we affirm them. We have not only the moral courage, but in our lives we demonstrate the moral energy.

Human personality expresses itself in the following **seven** common ways:-

(1) Interests
(2) Purposes
(3) Aspirations
(4) Feelings
(5) Activities
(6) Beliefs
(7) Attitudes

The above become values, when they meet all five criteria, given above.

Population education as an area of study has many controversial and value-laden issues and the best way of dealing with them in the classroom is through the use of a teaching methodology called 'values clarification'. Values clarification is designed to engage students and teachers in the active formulation and examination of values. It does not teach a particular set of values. The goal is to involve the students in practical experiences, making them aware of their own feelings, their own ideas, their own beliefs, so that the choices and decisions they make are conscious and deliberate and are based on their own value system. Conflicting values give rise to ethical dilemmas in population such as: individual rights versus collective rights; the achievement of equal justice; freedom versus coercion; human survival versus survival of people and the ethics of social and economic incentives.

People today are faced with conflicting situations where they have to make choice. The youth are surrounded with changing conditions and each day they are confronted with having to decide or to make choices from among a number of equally attractive but conflicting alternatives. Ideally, our decisions will be made on the basis of our values.

There are many strategies and models for undertaking values clarification. The most popular is the valuing process formulated by Raths, Harmin and Simon. Their strategy consists of choosing freely from alternatives after thoughtful consideration of the consequences of each alternative. Another model 'Teaching on Moral Dilemma' consists of four steps: (1) Confront a moral dilemma; (2) State a position on the original or alternative moral dilemma (3) test the reasoning for a position on a moral dilemma; and (4) reflection on a reason for the position. Jack Fraenkel uses the affective component of valuing in his 'Exploring feelings' where the teacher uses questions, poetry or articles as a spring board for exploring one's values and feelings. In this strategy, students are asked to describe their perceptions freely about the central figure or message in a story or poetry, and how they could feel in a similar situation.

Sweeney and Parson's 'Social Issues Model'

is a highly cognitive type of valuing. In this strategy the following processes are followed; (1) Selection and presentation of materials; (2) analysis of these materials; (3) reflection; and (4) application. Jayasuriya, (1978) recommends the following procedures; (1) recognising the existence of values and that there are individual differences as well as commonalities among the values that different persons hold; (2) recognising that other individuals are entitled to hold values different from theirs; (3) inferring from words and actions the values that underline them; (4) identifying values that should be encouraged and discouraged; (5) examining existing socio-cultural values as to their functional utility in the context of life in the present day; and (6) recognising and analysing value conflicts.

Kenneth H. Hoover (1976) in his book " The professional teacher's Handbook" writes that the socio-dramatic method provides an ideal setting for the teaching of values.

Oliver and Shaver (Joyce and Weil, 1980) present the Jurisprudential Inquiry Model to help students learn to think Systematically about contemporary issues. This model requires them to formulate these issues as public policy questions and to analyse alternative positions about them.

The Valuing Process

Raths, Harmin and Simon view values to be the result of the valuing process. They identify seven requirements in the valuing process which serve as the criteria in defining values. These are:

1. Choosing freely.
2. Choosing from among alternatives.
3. Choosing after thoughtful consideration of the consequences of each alternative.
4. Prizing and cherishing.
5. Affirming.
6. Acting upon choice, and
7. Repeating.

(1) Choosing Freely

There should be no enforcement of authority or coercion when a person is making a choice. It is when a person chooses freely that he is likely to cherish, prize and put significance in a belief, a goal, or an activity.

(2) Choosing from among alternatives

Values clarification relies on the wisdom of learners to choose between conflicting values. A choice is only possible when there are alternatives from which to select. There should be more than one alternative to choose from before this criterion can be made applicable in considering an interest, a purpose, or an activity a value.

(3) Choosing after thoughtful consideration of the consequences of each alternatives

It is not enough that a choice is made freely from among alternatives but the learners must be led to analyse consequences of the choice of each of the alternatives, with reference to their lives. It is only when the consequences of alternatives are analysed and clearly understood that an intelligent choice is likely to be made and transformed into a value.

(4) Prizing and cherishing

Values do not include only rational choices, but feelings as well. When feelings are added to one's rationalization then one becomes fully aware of what he prizes and cherishes. Values develop from choices people are happy to make. Prizing and cherishing means that a person is satisfied and is glad with the choices he has made, which he will use as guidelines in his daily life.

(5) Affirming

If one is proud of a choice and willing to affirm it publicly that choice has complied with another value requirement - affirming. If one considers a value important, then he will not be asha-

med to talk about it publicly, not only to help further clarify their own values but more important to help others clarify their own values as well. Like a good missionary, he will strive to disseminate the value to as many people as possible.

(6) Acting upon choice:

This is an important phase in the valuing process and very significant because it is in acting that a choice is given substance. Choosing freely from alternatives and cherishing such choice should culminate in an action.

(7) Repeating

The values must be seen as a part of the overall pattern of life. Values must repeatedly be manifested in a person's way of life. A person acts with consistency and persistence the values he upholds.

Value clarification: A teaching approach

There are three levels of teaching namely the facts level, concepts level, and the values level. On the values level, value clarification is suggested strategy since the goal is to enable learners to explore the connection between the subject matter and their own feelings, attitudes and behaviour. Population education, as an area of study has many controversial and value-laden issues. Such population issues such as when to marry, where to live, what occupation to engage in, when to have the first child, how many children to have etc., are heavily laden with values. People attach differing values to these issues.

Researches have shown that through value clarification students have learned to use both rational thinking and emotional awareness to examine their personal and social values. They have also acquired skills to resolve value conflicts and to act according to their value positions and choices. According to Simon, Howe and Kirschenbaum, value clarification is designed to engage students and teachers in the active formulation and examination of values. It does not teach a particular set of values. The goal is to involve students in practical

experiences, making them aware of their own feelings, their own ideas, their own beliefs, so that the choices and decisions they make are conscious and deliberate, and are based on their own value systems. All values contain cognitive elements; they make selective and directional quality; and they involve some affective components.

In the value clarification approach the students are assisted to utilize the valuing process, discussed earlier, in their own lives and apply them to already formed values and still emerging ones. The population education programmes of Philippines 1985, lists the teaching techniques/strategies and devices which facilitate value clarification. They are: clarification response, the value sheet, role-playing, games, simulation, brainstorming, interviews, questionnaire, time diaries, open-ended questions, values grid, devil's advocate.

Guidelines for Teachers

While adopting the value clarification approach the teacher should view himself as a facilitator of learning rather than an expert on values. Before using a value clarification activity with students, the teacher must take time to go through it carefully and if possible it should be tested with the small group. The teacher must establish rapport with the students and create a kind of climate in which individuals feel safe to explore their values. It should be stressed that there are no wrong answers and whenever students donot want to respond, they should be allowed to pass. Students must be encouraged to strive to listen and understand one another and not to demoralize, critize one another. The teacher should participate in the exercises and discussions whenever possible and should not impose his values on others, in other words, the teacher should be non-judgemental.

Inquiry oriented or Discovery approach

One of the UNESCO's document (1982) considers inquiry as an umbrella term for the inductive method, problem-solving method, and discovery learning. The population education programme of Philippines uses "discovery approach" or "conceptual approach"

for the inquiry approach. While it is true that these terms do not involve exactly the same steps, they share one common concern which is the placing of a high premium on the learner's thinking and findings.

The primary goal of the inquiry approach is

> "to provide the students a sense of efficacy, that is the beilef that they have the skills to look critically at their environment and, to a large measure, control their own destiny and influence the decisions affecting them".

Masalahs and Cox (1985) define inquiry approach as,

> "an environment or orientation of teaching and learning rather than a specific method. It should be viewed as a continuum of teaching alternatives, with the traditional expository method at one extreme and the inquiry approach at the other".

Population education programme of Philippines (1985) defines inquiry as follows:

> "Inquiry means a systematic investigation of a problem or an issue. It implies of process, a series of investigative actions occuring in some order, undertaken to discover an answer to a recognised problem which is supported by eivdences. Inquiring is not discovering an answer that is actually lifted from a book but rather, the answer is evolved by the learner himself based on the result of his own investigations. This means that in his search for the answer to the problem, the student pores over several sources of relevant information, analyses these, organizes the information, concludes and decides on the best alternative solution. Briefly defined, inquiry means getting answers to questions through the collection and analysis of data and inquiry approach is a teaching style where the learner, with the minimum guidance from the teacher seeks to discover and create an answer to a recognized problem by following a scientific procedure".

Characteristics of the Inquiry approach

The following are some of the important characteristics of the inquiry approach:

1. It is process rather than content oriented.
2. It is conceptional instead of factual.
3. It is student centred.
4. It emphasises students active participation.
5. It uses content not as an end in itself but rather as a means to attain other important purposes.

On the whole, inquiry approach seems to prove the growing trust in the student's ability, to do his own learning. The Population Education Programme of Philippines identifies the following seven steps of inquiry oriented approach:-

1. Recognizing and stating the problem

The inquiry approach assumes that real learning starts with a confusion, puzzle, dilemma or problem bothering the learner. The teacher, after introducing a lesson, through a skillful questioning can guide the students to become aware of a problem and help them to state it in a meaningful and manageable way. The statement of problem or problems are written on the black board and the students are encouraged to agree as to how the problem should be stated clearly.

2. Formulating the Hypothesis / Hypotheses

The process of hypothesizing involves making educated guesses or proposed solutions to the problem in the light of the learners' experiences or data already available to them. A well-stated hypothesis can serve as a useful guide in the search of relevent data. It is usually expressed in the form of a statement of relationship between two or more sets of events or phenomena. For this the teacher can encourage the students to give possible explanations

or solutions to the problem either individually or in groups.

3. Gathering data

The relevent data that will support or refute the hypotheses has to be gathered. There are a number of ways to gather data such as observation, interview, questionnaire, case studies, documentary analysis etc., During this stage as students report on the progress of their work, teacher can ask how they plan to report findings to the class.

4. Reporting Data / Findings

The findings may be reported to the class in various forms, such as: oral report, panel discussion, debate, use of resource person, dramatization, role playing etc., After reporting, the students discuss and analyse the information they heard. The teacher can guide the students to ascertain the validity and reliability of their information.

5. Testing the Hypothesis / Hypotheses

Those hypothesis which are supported by adequate evidences are checked and accepted and those which are not, are crossed out or may be studied further.

6. Formulating the concepts and Generalizations

The concepts formulated are combined or summarized by stating the relationships between two or more concepts. This statement of relationship which universally applies to a class of phenomenon is called the generalization. Although the generalization is supported by many evidences, it should be considered not as a final truth but as tentative and subject to change.

7. Stating one's commitment

The teacher guides the learners so that they may resolve to apply the solution in their own lives which will lead them to new experience. Some lessons may end up with learners making a commitment to

apply new learning in their present lives, others may culminate with positions on or verbalized attitudes towards new knowledge or skills learned. The reason is that some knowledge learnt can be applied only at some future time in their lives.

The findings of studies show that the inquiry approach is superior by comparing it with traditional methods in terms of:

1. Acquisition and retention of population information and concepts over time;

2. the development of thinking skills;

3. internalizing the concepts of population education;

4. the development of desirable population related attitudes.

Pandey (1984) in his research showed that for developing higher mental ability like analysis and to teach population dynamics, inquiry method proves to be a better method The University of Philippines System college of education in its unpublished study (1976) stated that the inquiry approach was more conducive to fostering the development of thinking and analysis skills than the expository approach. According to Villanueva (1976) the inquiry approach seems to be more effective than the traditional expository approach in developing in students a favourable attitude towards the subject matter.

The Roles of the Inquiry Teacher:

The inquiry teacher does not directly control the learning procedures but lets the students take the initiative. The teacher stays in the background but it does not mean that he only stands at the back of the classroom doing nothing. Massialas perceives the inquiry teacher to perform the following roles in order to carry on successfully the inquiry process:

1. As planner - plans learning activities

for a period of time and arranges learning materials sequentially.

2. As a introducer - introduces a new learning experience with materials that may serve as a springboard and for discussion.

3. As questioner and sustainer of inquiry- plans the role of constantly prodding the students and making them probe the defensibility of their positions or points of view.

4. As Manager - performs routine management tasks in addition to engaging students in planning and executing inquiries of their own.

5. As rewarder - observes all the good points of students in order to recognize, praise and encourage them.

6. As value investigator - places emphasis on the process of inquiring and on the idea that value judgements must be publicly defensible when dealing with questions of value

7. As formative evaluator - conducts formative tests, the results of which will be used as basic for making adjustments or improve ements in the teaching - learning activity.

Self-instructional Modular Approach

Self-instructional approach operates within the theoretical frame work which states that an organism's behaviour can be generally shaped to the desired and through the techniques of reinforcement. Materials are programmed or arranged in a series of successive frames that lead the students from a body of known principles to unknown, from simple to more complex matter within the same content area. At each stage of the learning process the trainee receives reinforcement through knowledge of results. Giving the accurate responses means proceeding to the next step. The trainee eventually

masters the whole subject matter at the pace set by the accuracy of his own responses. Within the frame work of programmed learning, reinforcement, besides shaping the trainee's behaviour, also increases learning motivation. The immediate feedback on one's answer heightens the trainees awareness and draws him to a greater involvement in the learning activity.

The characteristics of self-instructional approach are as follows:- (1) learning takes place in small steps; one idea is presented at a time following a logical sequence; (2) it provides for more participative learner activities; (3) it informs the learner of his progress in the process of every step of the way; (4) the learner learns at his own speed; and (5) learning is from simple to complex. For a school based in-service course where self-learning modules are used, the name SLEM is given. In a report by Estela LI Gracia (1977) the following conclusions were drawn: Teachers like to be trained to teach population education in their classes through the modules; teachers learn population education concepts through the modules irrespective of management schemes. Other researches have shown that self-learning modules can bring about as great a gain in knowledge as traditional instructional models, and in fact can effect more mastery of subject matter than the conventional classroom method. Self-instructional modules generate a greater personal interest in learning and require a much greater effort than the traditional course. Modular training enables participants to progress at their own rate.

Computer-Assisted Instruction (CAI)

Computer-assisted instruction as a type of teaching method has been largely used in the United States. The researches have shown that computer-assisted instruction is most useful in teaching population dynamics or demography which entail some calculations such as constructing life tables, projecting a population, demographic equation, economic development, educational costs and enrollment, food demand and supply, demand for energy, labour force analysis, migration and urbanization, population history, contraceptive technology, age specific ferti-

lity rates, age distributions, crude birth, death rates, growth rates. According to Hilgard and Bower (1975) "Computer Assisted Instructions has now taken on so many dimensions that it can no longer be considered a simple derivative of the teaching machine or of the kind of programmed learning that Skinner introduced. The teaching machine and the linear or branching programmes are to be sure, its immediate ancestors, but it has evolved rapidly."

Computer-Assisted Instruction was developed on some sound assumptions. This instruction can be arranged for a large number of students with scope for maintaining quality and quantitative education. Computer based programmes provide the maximum amount of flexibility including alternative parts and different examples for the students who may need them. Therefore the learner goes at his own pace, receives immediate personalized feed back and freely chooses the content, sequencing and degree of difficulty of instruction. Researches have shown that the CAI programmes can be succesfully used with children of all ages, university students, community groups, government officials and professionals in the field of population.

Audio-Visual approach

The main rationale behind the use of audio-visual aids in teaching is: generally, the more senses people can use, the more likely they are to understand and to remember. Thus, audio aids such as radio, records and recorders appeal to the sense of hearing; visual aids such as pictures, posters, books and slides appeal to the sense of sight. Audio-visual aids may be used in teaching for a great variety of reasons. These have the basic entertainment value and they can do much to focus the attention and interest of the class on an unfamiliar topic. Audio visual materials are used most to stimulate interest in and provide information on a specific subject and they can also be used most to motivate the audience to accept a new outlook through a change of attitude, to summarize information presented through other more formal channels, to improve learning by showing various points of view in a concise manner, and to provide information of a

technical nature which the instructor might not feel competent to explain alone. Educators have found the audio-visual materials have great potential for bringing current and emerging ideas in different professional fields into the classroom and for presenting problem situations to the class in a realistic manner. They can be effectively used to stimulate class discussion and thus can involve the students more actively and more immediately in the learning process. Bill Baird (1972) points out that where puppetry has a strong cultural tradition it can be effectively used to impart population education. It explores the use of audio-visuals in teaching population education in the class room. It enables the students to develop their listening and memory skills, analytical and logical thinking, understanding of emotional reactions and creative thinking.

GAMES/ROLE PLAYING

Population education is aimed at promoting changes in attitudes and behaviours with regard to family size and other fertility behaviours of an individual. But, many of these behaviours run counter to the general social tradition. Many researches suggested that not only new models for behaviours should be proposed but for these new models to be reinforced and sustained. Role-plays and games in population education serve as vehicles for presenting new role models. Role enactment techniques have proved to be are of the most effective means of inducing stable, effective and attitudinal change. Games and role-plays can be used in population education to facilitate the examination of values and to provide role models for the adaption of new behaviours.

Games have been defined in many ways. They are defined as "any context among players on the board, players learn how time, fate and other circumstances affect decision making regarding life-styles and family size".

Udai Pareek and Rao (1981) in the Handbook for Trainers in Educational Management have explained that games have set rules, predictable result, hidden design to highlight or demonstrate a behavioural process, and they produce dramatic effect. The games are quite effective in their purpose but

they cannot be played again and again. Games are categorised in many ways. The first classification includes physical, symbolic and social games. The second includes "Show-down", "Co-ordination" and "Strategy". The third typology includes "Zero-sum" and "non-Zero sum" games. Fourth classification includes skill practice games, role-playing and simulation.

There is no single way to present information. Some methods are more effective than others for presenting specific type of subject matter and achieving specific objectives. All of them may not be suited for every class, for every community or for every subject but a teacher or field worker can use any of them depending on the classroom environment, the age level of the students and rapport between the instructor and the class. The teaching methodologies used for conveying population education messages in the schools include the following: role playing, games, brainstorming, spring boards, buzzing, case study, group discussion, confrontation, interviewing, survey, process approach, acrostics, agree-disagree statements, character comparisons, circle response, choral reading, Bible personalization, drama, panel discussion, symposium, inquiry appraoch, values clarification, audiovisual approach, field trip, simulation, debate, forum, demonstration and colloquy. These teaching methodologies have been suggested and demonstrated for use in sex education, population education, religion as related to population education, demography and human economics.

In the non-formal sector, the teaching strategies can be classified according to: problem-centred approach, projective approach, expressive/creative approach and participatory approach, such as those which will sensitize field-workers and develop community awareness; those that will encourage the learners to open up and explore their problems; those that will involve the learners in creating learning activities and in planning and solving their own problems. These major approaches use a lot of picture cards, group discussions, visual aids such as booklets. posters, slide shows, comic books, fotonovels (story in photographs) puppet, flexiflans and Johari's window. These methodologies have been used in the

publications for literacy education, health and nutrition and labour education which are related to population education.

Population education is an education innovation. It is multidisciplinary in its approach. The use of non-traditional methods of teaching like inquiry and value clarification methods which has become possible in many countries is largely through population education, has revolutionized the teaching methods. But teachers in the traditional conservative system of education act as a block. One of the reasons is that it requires change in the role of the teacher.

Taylor and Hamal (1974) write that:

"Avoiding an approach that involves the total learning process is particularly tempting in population education for children since in many cases restructuring existing curricula to include population education is in itself a major feat. However, since traditional schooling does not teach concepts but rather requires students to memorize teacher exhorations, just changing the exhorations to include population matters will not cause students to learn at the required conceptual depth for attitudinal change. If long-term changes in the future sexual behaviour of these students are not objective then such shallow population education will have a minimal benefit".

****

Chapter 11

Strategies for training Personnel in Population Education

Education plays a very important role in the development of any nation and its economy. Education is a life-long process in which a person continuously acquires new capabalities, which may take any form of knowledge, skills, attitudes, values or combinations of these. The capabilities of people are the main assets of a nation and their development should be monitored carefully. Educational planners and administrators are in a way agents and educational change and unless they perform their roles effectively educational development may slow down and may not properly get integrated with other developmental activities in a country. They play a critical role in fostering and monitoring the development of educa-

tion in any country. The development of a new subject such as population education is fostered and monitored through the following broad types of activities: estimating periodically the nature and extent of human capabilities required in the country for its development; planning new systems and activities required to develop these capabilities; initiating and monitoring the activities of existing educational systems; and ensuring effective management of various educational systems.

The educational planners and administrators involved in the above functions are as follows (Pareek & Rao, 1981) :

1. Heads of institutions including heads of schools, colleges, polytechnics and institutions of higher learning
2. Heads of large systems e.g., universities and national and regional level institutions of research and training.
3. District education officers who are in charge of a number of schools and other forms of education in a small to a medium sized geographic or educational units having high responsibility to monitor these systems.
4. Senior administrators at the state, provincial or regional levels who influence regional policies, and who have executive responsibilities for regional level education development.
5. Professional specialised planners at the central level planning agency, and with the central and state or provincial ministries of education.
6. Senior administrators at the central level who influence the national level policy making and who have executive responsibilities at national level.
7. Policy makers including the ministers, advisors to the ministries and others who participate in policy making.

According to Udai Pareek and Rao (1981) planning and organising a training programme involves the following six steps:-

1. Designing a training strategy.
2. Identifying training needs.
3. Developing a curriculum.
4. Selecting training modalities and methods.
5. Organizing training.
6. Evaluating training.

Training of Personnel for Population Education

Training of personnel is a top priority activity in population education programmes. The persons who need training in population education programme can be broadly grouped under two heads namely, (1) Professional personnel, (2) teachers.

Among the professional personnel people who are responsible for designing curriculum and learning materials, who develop appropriate teaching methodologies, people who provide training for teachers, involved in research programme and evaluation are included. Programme leaders and educational policy makers are also included in this category. This group requires an intensive training either through short courses or seminars. Training to this group is provided by a small team of experts drawn from inside or outside the country. The experts generally will be those having previous experience in population education. Often specialists from related fields such as demography, sociology etc., are also involved.

The training of personnel and teachers is one of the most difficult tasks. Varieties of strategies and modalities are used for personnel training. For the professional personnel usually a three day orientation programmes are conducted. Usually administrators like key personnel of the projects, heads of the institutions and departments, professors and deans of universities and colleges, education officers and heads of schools are trained in these kinds of programmes.

The next type of training that is usually offered, is a little longer in duration. These programmes range from are one week to one month duration. In these training programmes project personnel, curriculum developers, teacher educators, resource persons, trainers, teachers and field supervisors

are trained.

To train these various personnel different models are used in different countries.

MODELS FOR TRAINING PERSONNEL

There are different methods of training available. Pareek and Rao (1981), in their "Handbook for Educational Management" discuss the following methods:-

1. Inspirational methods.
2. Expository methods.
3. **Natural learning methods:-**
   a) Trial and error learning
   b) on the job training
   c) discussion methods.
4. **Individualised methods:-**
   a) Programmed instruction.
   b) Training through mass media.
5. **Behaviour control methods:**
   a) Behaviour reinforcement.
   b) Modelling.
6. **Controlled exposure methods:**
   a) Demonstration.
   b) Films
7. **Encounter Methods:**
   a) Laboratory training.
   b) Assertion training.
   c) Motivation development.
   d) Creativity training.
8. **Discovery methods:**
   a) Experiments.
   b) Field training.
   c) Case teaching.
   d) Role-playing.
   e) Behaviour simulation.
   f) Instrumented training.

Bhatnagar (1987) lists the following training methods:

1. Apprenticeship.
2. Brain-storming.
3. Buzz-session.
4. Courses of different durations.

5. Demonstrations Methods and Results
6. Discussion Forums (Group Forums):-
   a) Seminars
   b) Symposia
   c) Syndicates
   d) Panel Discussions
   e) Workshops.
7. Educational Resource Centres.
8. Field Trips
9. Individualised Instructions.
10. Laboratory practices:-
    a) Class Laboratories
    b) Field laboratories.
11. Lecture Forums.
12. Management by objectives (MBO).
13. Multi-media Instructions.
14. Organised Forums:-
    a) Clubs
    b) Associations
    c) Societies
    d) Media-Clubs (Radio, T.V. etc.,).
15. Orientation.
16. Peer Tutoring.
17. Programmed Instructions.
18. Role Playing.
19. Role Workshops.
20. Self-study.
21. Sensitisation Techniques.
22. Simulation Games.
23. T-Group Techniques.
24. Tutorial Groups.
25. Work study groups.

A survey of literature in population education reveals that the following models of training are being used in different countries:-

1. Hierarchical face-to-face training model.
2. Peer training model.
3. Mobile training model.
4. Modular or self-learning training model.
5. Correspondence training model.
6. Linked training model.
7. Educational Radio (ER) and Educational Television (ETV) training models.
8. Field operational training model.
9. Internship and attachments models.
10. Eclectic training model.

(1) Hierarchical Face-to-Face Training Model

In this model the training continuum consists of successive training sessions for different educational personnel in the hierarchical descending order. The process involves training of personal face-to-face in two or more steps, where in the project personnel are trained at the national and international level who in turn train a selected group of specialists or master trainers at the national level. These master trainers train the second group of trainers (teacher educators, district education officers, principals and others) who inturn train the teachers at the district, subdistrict or village levels. This model places the teacher who is the main target of the training programme at the end of the line. This model is being used with certain modifications in countries such as India, Nepal, Bangladesh, the Philippines, the Republic of Korea, Srilanka and Thailand. **This is probably the most expensive way of training.**

(2) Peer Training Model

The peer training model involves a linear pattern in which the trainer and the trainees are both on the same level. In this model the principals and subject heads or co-ordinators in each secondary school are trained by teacher trainers through face-to-face training and they in turn are given responsibility for training teachers in their own or neighbouring schools. Each institution is provided a complete set of training materials and each school sets its own schedule of training of teachers. Each school is required to send a report of its training programme to the district education officer to pass on the consolidated information to the officers incharge at the regional/provisional/national level. The supervisory teams visit the schools and provide on the spot assistance, guidance as well as evaluation of the training programme. This model has the advantage of economic feasibility and a faster rate of teacher training. The Philippines has used this model.

(3) Mobile Training Model

This model consists of floating or mobile teams comprising of trained, competent and highly experienced teachers, administrators, and supervisors who conduct training programmes for teachers in their

schools or designated training centres in the area. These teams are fully equipped and the teams can be replanished by giving a chance to their other competent teachers and administrators to act as trainers. The training can be organised at a stretch or during vacations or weekends conveniently. This model is economical and does not disrupt the school work. This model has been used or is planned to be used in some countries such as India, Indonesia and Srilanka.

(4) Modular or Self Learning Training Model:

Self-learning modules provide for independent and direct training of teachers, require minimum super visions, are easy to administer, more economical and entail a minimum of logistical problems. The Philippines and Malaysia are using this model. The population education programme in Malaysia has developed a set of eight self-learning modules called as SLEM. The teachers after reading the modules discuss them under the direction and leadership of the headmaster of the school who acts as a course manager and trainer. The headmasters have already been given intensive face-to-face training by the project staff in population education as well as in the use of SLEM.

(5) Correspondence Training Model:-

This model has been used in the form of a summer-school-cum-correspondence course for the pre-service training of teachers in India conducted by the Regional Colleges of Education under the NCERT. This model comprises a correspondence phase and a face-to-face training phase. The advantage of this model is that a large number of teachers can be reached, particulary those in the remote areas. The success of this model depends on the quality of the set of correspondence lessons and other learning materials, a systematic and regular feed-back mechanism, and an efficient postal service. This model has been used by the UNESCO Regional Office, Bangkok in training in population education for keypersonnel from a number of countries in Asia. The three phases of the model are (i) correspondence phase, (ii) face-to-face training in Bangkok, and iii) follow-up national training in the respective countries of the participants.

(6) Linked Training Model

In this model the training of teachers in population education is built into the in-service training activities set up for those subject areas in which population education has been integrated. A set of time is allocated to the teaching of population education within the total training period. This model can be used as a supplement to other models of training because of the number of teachers that can be covered through this model will very limited. In India, the Republic of Korea, China, the Phillipines and inother Asian Countries population education has been introduced as part of the existing regular courses in primary and secondary teacher training institutions as well as in the in-service training programmes for teachers. In Karnataka, Bangalore University has introduced population education as an Additional subject at the B.Ed., level since 1985.

(7) Educational Radio (ER) and Educational Television (ETV) Training Models

The use of educational radio and TV for the in-service training of teachers in Population Education is one of the possibilities which should be explored, Many countries in Asia and the Pacific are using radio and TV in supplementing and reinforcing the in-service training of teachers. This can be an economical and effective model for training teachers especially those who live in remote areas. The teachers should receive the background resource materials before the broadcasts. The head of the school should be made responsible to conduct the training programme and send feedback and evaluation periodically to the district education officers of the concerned officials at the national level. This model can be supplemented with a peer training model and modular training model to make it more effective. In India the Satellite Instructional Television Experiment (SITE) was conducted between 1st August 1975 and 31st July 1976 by using Geostationary Satellite ATS -6. Under this programme, 2,400 villages spread over different parts of India regularly received four hours of instructional TV programmes every day. The programme covered school education,

agriculture, health and family planning. The Centre for Educational Technology organised training for 4,60,000 primary school teachers in teaching science under SITE with the help of a multi-media package. Several evaluation studies of the experiment point out that it was a successful programme. This model is being used in Afghanisthan, Nepal and the Republic of Korea.

(8) Field Operational Training Model

This is based on participatory activities in the rural community where the participants survey the needs of the community, identify their problems and develop programme and material which are need based. This model has been used by the UNESCO Regional Team in Population Education especially for the training of out-of-school key personnel from different countries. Because of the financial, physical and time constraints this model may not be feasible for the training of personnel on a large scale. This model has been used in India, the Phillipines, Thailand.

(9) Internship and Attachments Model

In this model the interns work on specific areas of Population Education through self-study under the direction of the team. This model can also be used at the national level in the training of key persons. This internship model of training has been used by the UNESCO Regional Team in Population Education for the training of key persons from different countries in Population Education as well as in documentation. In this model only a selected few can be trained.

The attachment of key persons for a period of one to three months to some successful programmes in Population Education was organised by the UNESCO Regional Office, Bangkok. Under this programme the trainee works as a member of the local staff and gains full experience in the substantive as well as operational aspects of the programme. The financial and resource constraints limit the number of persons who can be trained in this internship and attachment model.

This model is being used in India, Bangladesh, Indonesia, Malaysia, Nepal, Philippines.

(10) Eclectic Training Model

This model combines all the above models for training different categories of personnel namely (i) population education project personnel, (ii) administration and policy level personnel; (iii) resource persons and trainees; and (iv) teachers and field workers. The main strategy used in this model is that the population education project personnel, administrators and resource persons and trainers, whose number is manageable and who used intensive training will be trained through face-to-face model, whereas teacher and field workers will be trained through mobile teams and/or peer training models. The training of teachers and field workers can be supplemented by modular, linked, correspondence and/or educational radio and E.T.V. This model is economically feasible, effective and has a minimum of administrative and other problems.

Selecting a particular model for training is a difficult job. One should exercise judgement and select the appropriate model which will help in achieving the objectives of the programme. While doing so there are many factors which need to be considered. The huge number of persons to be trained is the biggest problem. Time and the financial burden are the two important factors. The model that may be selected must be appropriate and should maximise the use of resources available in a particular country. Therefore, one basic question need to be asked while selecting the method of training is how it is economically and administratively feasible and how maximum number of people can be covered.

Training Teachers for Population Education.

Training teachers for population education programmes is the most important task but at the same time one of the most difficult. As Dr.Jacqueline D.Sherris (1982) writes "while teachers themselves are rarely in a position to plan and promote national programmes, without their support the plans developed by experts and officials will never be fully implemen-

ted. Experience in population education suggests that the more teachers participate in the processes of curriculum development and training the more likely they are to carry out the programme. to be effective in the long run, training in population education must reach high proportions of current classroom teachers (in-service training) and of those studying to become teachers (pre-service training)"

In-Service Teacher Training strategies

Training in-service teachers for Population Education programme is considered to be the biggest challenge among all population education programmes. This is because of several reasons. First, the number is very large. Secondly, these teachers have limited education themselves. Thirdly, most of the teachers donot have enough knowledge regarding population education concepts. Fourthly, they often show resistance to any educational innovation. Most of them are not prepared to change their routine rhetoric ways of teaching and they are not prepared to shoulder extra responsibility.

To train large number of in-service teachers the following strategies are suggested.

1. Face-to-face training in short courses or workshops.
2. Peer training or master teacher programme.
3. Self-learning Educational modules.
4. Correspondence courses.

Pre-service Training

The pre-srvice training for population education programme is more effective than in-service programmes. **If the future teachers are taught about population issues during their teacher training programme, population education can easily become institutionalized in schools in less than a decade. Unfortunately pre-service training has not received much attention.** In many countries population education has found its way into the area of teacher education. For example, in Bangalore University population education is offered as an additional subject in B.Ed., course since 1985.

The National Seminar on Population Education held at Bombay in 1969 recommended that immediate step should be taken to organize courses on population education in the teachers colleges at the primary as well as the secondary levels.

The National Conference on Population Education held at New Delhi in 1971 urged to amend the B.Ed., Syllabi to incorporate population education content wherever feasible.

The table given below outlines the different ways in which population education is introduced in pre-service teacher training programmes in some of the countries.

TABLE NO. 8

NATURE OF PRE-SERVICE TEACHER TRAINING FOR POPULATION EDUCATION

Country	Type of Programme
Bangladesh	Partially introduced in primary and secondary teaher training curriculum.
Indonesia	Partially introduced in some training institutions for secondary school teachers.
Korea, Republic of	Population course in some univesities and training colleges.
Malaysia	Integrated into health curriculum of training institutes
Philippines	One semestar course at many teacher training institutions.
Singapore	Lecture series in health education course.
Srilanka	15-hour course in training colleges.
Thailand	One semester course in training colleges.

****

Chapter 12

Population Education for out-of-school youth

In most of the developing countries in the world major portion of the population is of illeterates. Formal education is not reaching all groups of people, it is not possible also. For the purpose of social and economic development and to enhance the quality of life, these illeterature groups of youths should be educated to assume the responsibilities of pre-planned parenthood. This group of people who make individual as well as collective decisions affects the individual, family, community and the nation. These millions of people rarely have any educational programme to make them to understand the dynamics of their effects on population growth. Thus Population Education for out-of-School is essential.

The Regional Consultative Seminar in Population Education of 1982 noted that one of the shortcomings of country programmes in population education is that population content integrated in school subjects is quite inadequate in bringing about desired attitude

changes regarding population issues and problems. This is largely because population concept tends to spread too thinly in many non-formal education programmes. The participants of the 1984 Regional workshop developed prototype packages of curriculum in Population Education for the non-formal education system.

Out-of-school population education programme is same as non-formal education programme. Out-of-school programmes of population education frequently have low visibility and are commonly part of other educational programmes with broad developmental concerns. These programmes vary immensely in scope and size, in their locations and in the auspices under which they operate. They range from nationally co-ordinated, semi-governmental rural development programmes to group-specific programmes.

In the whole context of life long education, Population Education has its role to play. Life long education is a cumulative process, therefore out of school population education programmes should seek to reach those groups who are initially deprived by the school system, such as unschooled youth and particularly girls, women, the urban poor and isolated rural populations. These considerations indicate the need for a wide range of different programme inputs, oriented towards several different points in life cycle and available to different age groups as the demand arises. It is unlikely that any single institution or organization will be able to meet all these needs. Diversity and flexibility in programme development are essential. In this aspect Illich in his Deschooling society (1971) says: "If individuals are to make educated decisions about Population events, as these events affect themselves and their societies, then appropriate population content must become one of the main concern of life long educational process. New institutions may be needed to carry such content; old institutions may have to enlarge their functions".

Planning out-of-school Population Education programmes

Out-of-school educational programmes are

planned at both micro and macro levels. The micro approach involves the analysis of a local situation and the identification of problems, needs and resources at the community level. Macro approach is that which takes place at the national level. The out-of-school population education programmes were discussed in detail in a Regional consultative seminar on population education for out-of-schol youth and adults. The participants from 9 member states in Asia and United Nations specialized agencies and non-governmental organizations unanimously recommended that out-of-school population education programmes should be integrated with oter programmes of development carried out by different agencies in each country. However, the specific recommendations for planning of out-of-school population education programmes of the seminar were as follows:-

(1) The National authorities should incorporate out-of-school population education as an integral part of an overall programme for development.

(2) The planning approach should be one of the combining the elements of macro and micro planning, to the extent that such combination is possible. For this national authorities should endeavour to build a two way communication system.

(3) While drawing up a programme for out-of-school Population education, the principles of co-ordination should be kept in view so that the programme does not run counter to already existing programmes.

(4) Where circumstances do not permit the launching of an extensive programme immediately, the national authorities may conduct pilot projects to be followed by comprehensive programmes later on a bigger scale.

(5) For effective planning at the national level some form of a central co-ordinating authority, such as a Population council or Population Committee should be created for overall planning, co-ordination, supervision and evaluation of the programme.

Content for out-of-school Population Education

An analysis of the Population Education curricula in countries with Population Education Programmes will show that while there are no identical content outlines, there is a great deal of commonality about them. Coming to out-of-school Population Education programme, selecting and outlining the content is much more difficult than in-school population education programme. Because the target groups of out-of-school programmes are so diverse in their age, marital status, education level, language, employment, religion, socio-economic status etc., no uniform curriculum content can be planned for all the various target groups of out-of-school population education programmes.

In the light of the above analysis the content of out-of-school Population education are less systematic and the items are less in sequence than in in-school population education programme.

In majority of out-of-school population education programmes, the selected content has been focused on (1) Population related events and their repercussions on both the quality of life of the family and development of the society and (2) prevailing fold demography and its repercussion on future quality of life.

At the consultative seminar on out-of-school education programme in Population Education organized by UNESCO at Bangkok in 1975, the following curriculum contents were suggested for a comprehensive and fully - structured programme of population education:

* Demographic processes.

* Biological, Social, Cultural, Economic and Psychological determinants of the population processes.

* Consequences of population changes upon the quality of life of the individual, the family, the nation and the world at large.

- National policies and programmes in relation to Population Education.

A Regional Workshop for the Development of packages of Adequate Learning Requirements in Population, was organized by UNESCO Regional Office for Education in Asia and Pacific in collaboration with the Ministry of Education, Thailand, at Chiangmai Thailand from 17 to 30 July 1984. The participants of the workshop were guided by a set of guidelines for determining a good package to non-formal education system. They recommended and developed prototype learning materials for out-of-school youths and adults, and the guides to develop prototype package. This prototype package consists of: (1) a set of guidelines for its development and use, (2) Population Education curriculum built around the Information, Education and Communication (IEC) core messages. (3) Users guides (4) learning materials for literature out-of-school youth, including stories/ booklets, posters and charts and (5) Survey instruments for assessing the interest, needs and problems of the community, and evaluative research instruments for pre-testing the reading materials and posters.

Integration of Population Education in Development Programme for out-of-school youth and Adults

The experiences of some countries have shown that population education for the out-of-school becomes more meaningful and effective when integrated in ongoing non-formal and development programmes.

However, in discussing the relevance of population education concepts to the contents of development programmes and the modes of incorporation, the participants of the 1978 Consultative Seminar on Future Directions of Population Education felt that "Population education for out-of-school sector acquires more relevance when interwoven into areas that proccupies or interests the learners or are viewed as a solution, if not remedy to day-to-day problems". It is for this reason that population education has been intergrated in various non-formal programmes including literacy and adult education programmes, labour training and education, agricultural extension, food and nutrition campaign skills

development, social welfare drives, environmental education, urban renewal, manpower development and rural transformation and development.

Curricular approaches for integrating Population Education in out-of-school programmes

The integration of Population Education into various development programmes has been done by different countries and programmes following either one or combination of the integration approaches described below:-

Separate unit approach:- This approach calls for the development of the separate unit in population education and making this unit an integral part of the curriculum of an ongoing development or non-formal education programmes. This approach is mostly found in the training curriculum for field functionaries, and in some cases, in the curriculum for out-of-school and adults.

Infusion approach:- In this approach the curriculum development identifies separate population education topics or concepts and infuses the related specific topics in the contents of the development programme. This approach generally calls for three stages. Firstly, identification of relevant population education concepts and the plug-in points in various development programmes where these concepts could be meaningfully integrated. Secondly, the selection and sequence of appropriate learning units. Finally, the preparation of detailed textual or audio-visual materials for use in the development programmes.

Core learning kit approach:- This approach calls for the development of general curriculum and appropriate teaching-learning materials to meet the learning needs of the out-of-school population. This approach differs from the integration and infusion strategies in the sense that it neither advocates the infusion of population education concepts in to other disciplines nor does it form a unit whthin any other discipline. Instead, the advocates of of this approach identify common areas of interests and needs of various categories of target audiences,

predetermine sets of relevant population education concepts, translate them into a series of learning activities and prepare appropriate teaching-learning materials. All of these materials are then compiled in the form of modules or guides referred to as "Core learning Kits".

The field workers of various development departments are then provided training in the contents of the kit and their use in the field, especially emphasizing to the users the need for adopting the contents and the teaching-learning-materials to varying socio-cultural context. At present, the Non-formal Education Directorate of Indonesia and the Population Centre Foundation of the Philippines are experimenting with this approach.

Development of Integrated Curriculum for out-of-school Population Education

There are hardly any studies or researches to prove the superiority of one approach over the other. As stated in UNESCO Regional Training Workshop in Nueva Elija,

"An integrated curriculum is a curriculum composed of components of more than one disciplines/ areas such as curriculum for functional literacy, integrated rural development and integrated human resource development".

Principles in the development of Integrated curriculum

Some of the guiding principles for the development of an integrated curriculum recommended in UNESCO Regional Workshop on the Development of Curriculum Materials Integrating Population Education in Non-formal programmes in Philippines in 1980 are as follows:-

1. An integrated curriculum should be based on the needs/problems and characteristics of the target audience.

2. It should be relevant to national development goals.

3. It should be suited to local conditions.

4. It should be flexible.

5. It should make use of available local resources.

6. Its development should be a continuous process.

7. Its development should be interdisciplinary and participatory.

The procedural guidelines in the development of Integrated curriculum

These procedural guidelines indicate the actual steps or procedures to be followed in developing the integrated curriculum. After selecting a service area or community to be targeted and developed, the development of an integrated curriculum may proceed as follows:-

1. Analysis of the situations.
2. Analysis and interpretation of data.
3. Formulation of curriculum objectives.
4. Determining the content of the non-formal programme where population education is to be integrated.
5. Determining the population education contents that could be integrated into the non-formal education programme.
6. Identifying the entry or plug-in points in the non-formal programme content for integrating population education contents.
7. Listing down the specific population education contents opposite or below the related programme contents.
8. Identifying the teaching methods or learning activities that will achieve the objectives.
9. Determining specific curriculum materials to be developed for selected contents and learning activities.

10. Identification of evaluation means and development of instruments for determining extent of achievement of the objectives.

11. Development of the selected curricular materials.

Agencies involved in out-of-school Population Education Programme

The development of out-of-school Population Education programmes is a relatively new phenomenon dating from the early seventies. Many of the agencies and institutions are interested in in-school education as well as out-of-school Population education programmes. Within the Unites Nations, a number of sister agencies have been involved in this field.

Food and Agricultural organization (F.A.O.)

The mandate of the F.A.O. for its work in population education from 14th session of the Chief population activities consisted of research, advisory services, training, fellowships and publications in population aspects of agricultural development planning, collection of population related statistics, and projections of agricultural population and labour force. In 1986, with introduction of the Programme for Better Family Living (P.B.F.L.) and particularly after 1973, the agency's Population programme was expanded to include (1) the systematic consideration of relevant demographic and population components in the formulation of integrated approaches t o rural development and (2) the introduction of population education, communication and related research activities in agricultural and home economics education, training, extension, co-operatives, land settlement schemes and other rural development programmes. F.A.O.'s activities include the conduct of:- regional workshops for regional personnel, regional seminars on population problems as related to food and agricultural development and seminar on role of women in integrated rural development in-service staff training programme for rural development agencies and regional workshops on introduction of population concepts in curriculum of rural development training institutions etc..

The International Labour Organization (I.L.O.)

The International Labour Organization (I.L.O) Governing Body laid down at its 173rd session in November 1968, practical lines of action which included: the promotion of information and educational activities in the field of population and family planning through workers education, labour welfare and co-operative and rural institutions programmes; research on the demographic aspects of social policy and action to stimulate the participation of social security and medical service in the promotion of family planning. I.L.O. has actively supported governments, Trade Unions and Employers and their organizations in Asia and the Pacific in promoting population and family welfare amongst workers in the organised sector. The operational arm of the I.L.O. in the Population and Family welfare field in this region is its "Labour And Population Team for Asia and Pacific" (L.A.P.T.A.P.). This team has with the financial support of the United Nations Fund for Population Activities (U.N.F.P.A) successfully assisted the organizations in building up effective industrial sector family welfare programmes. The underlying purpose of these programmes is the promotion of the quality of life of the common man through broader and more enlightened conception of labour welfare.

In pursuance of this, LAPTAP has over the past decades, brought out several publications which provide information and guidance on the conception, design, planning and implementation of organised sector family welfare programmes. The ILO with its strong links with trade unions and workers' education movements, has a institutional framework on which it can graft a Population education programme, which looks at the impact of demographic forces on social and economic relationships at the family level as part of the greater problem and programme of social and economic development.

World Health Organization (W.H.O.)

The activities of the World Health Organization (W.H.O.) range from family planning services to health education, both in-school and out-of-school, the teachig of human sexuality in schools for health professionals, and the training of personnel.

In its educational approach W.H.O. has very consistently tried to develop education with respect to human reproduction, sexually transmitted diseases and related matters, as part of the general content of education in health aimed at an improvement in the quality of life, and of necessity considered as part of general socio-economic development. Health education in the formal school system would be considered as incomplete without these elements - though naturally the choice of how much should be included must remain a matter of national choice and decision.

In the non-governmental sector, organizations such as World Education, I.P.P.F. and the World Assembly of youth (W.A.Y.), Colombo Plan, UNFPA, UNICEF have been especially active in out-of-school activities. In different countries a variety of organizations are working in the field of out-of-school population education programme, at national level.

In Philippines various ministries as well as some of the governmental organizations are involved in out-of-school population education, such as Integrated Human Resource Development Programme for youth (IHRDPY), Population Awareness and Sex Education project. The Ministry of Education and Culture also integrated population Education concepts in its programmes. The Home Economics and Food production programme of the Bureau of Agricultural Extension is also working in this field.

In Thailand, a functional literacy and Family-life planning project has been initiated and implementd by the ministry of Education in association with World Education. In Afghanistan, through the ministry of Education, the government is developing a literacy project under the title, Family Health and Adult Education, including population and family planning concepts for rural women.

In Pakistan, population education has been included in the adult literacy curriculum. The Allama Iqbal Open University, the Family Planning Association of Pakistan, The Integrated Rural Development Programme and Functional literacy programme are involved.

In Bangladesh, the Agricultural Extension Insti-

tute of the Ministry of Agriculture has developed population education curricula and syllabi for agricultural extension workers. The Department of Social Welfare, The Ministry of Rural Development and the Family Planning Association have integrated population education concepts in their programme.

In Republic of Korea, various governmental and non-governmental agencies are involved in out-of-school population education activities. The planned parenthood of Korea and Korean Institute of Family Planning, Koren Institute for Research in the Behavioural Science (KIRBS) have developed Population Education materials for out-of-school youth.

In Malayasia, the Federal Land Development Authority and the Institute of Agriculture are primarily involved in this programme.

In Papua New Guinea, there is no national population education programme, but the ministries of Environment and Conservation, Health and the officers of Information and National Broadcasting Commission and National Planning have undertaken certain pilot activities to create awareness and interest among the key leaders about population phenomena and their implications on the development of the country.

In Egypt, there are many agencies working in the field of out-of-school Population Education Programmes such as, The Egyptian Family Planning Association and its branches, The labour unions, The Journalists Syndicate, The Agricultural Co-operative Union, the Women's Secretariat of Arab Socialists Political Party and its committees throughout the country, Youth Clubs, Minitry of Culture, Ministry of Information and Health, The Teachers Syndicate Population Association, Literacy and Adult Education Programmes, The Planning Institutes etc.,

In India, there are many governmental and non-governmental agencies actively participating in out-of-school population education programme. The National Council for Education Research and Training (N.C.E.R.T.) and Family Planning Association of India (F.P.A.I.) have developed some materials for out-of-school youth. The S.V. University in Andhra Pradesh

and Madras University have special programmes for the training of personnel as well as field extension programmes. The Directorate of Adult Education of Government of India has conducted a series of seminars and workshops to study the processes and methodologies of developing instructional materials that can integrate population education with Adult education. The Central Board of Workers Education has produced a number of educational materials which may be used in the Population Education programme of the Trade Union. The C.B.W.E. with the assistance of U.N.F.P.A. and I.L.O has brought out materials like Hand Book on Population Education for Workers, which is useful for use in training of education officers and workers educators in Trade Unions. Voluntary Health Association of India also has involved itself in producing useful literature related to population education.

The National Co-operative Union of India has attempted to develop approaches and methods to integrate population education concepts in the co-operative education and training programmes. The literacy House of Lucknow, the Integrated Child Development Service scheme, The Planning for Rural and Urban Integrated Development (PRIDE) have integrated population education in their programmes.

****

Chapter 13

Monitoring and Evaluation in Population Education

Evaluating the educational programmes is an herculian task. Population education programme is not an exception to this. Monitoring and evaluation form the part of the programme management cycle.

A training manual on monitoring, evaluation and evaluative research in population education (University of Philippines, 1986) considers monitoring as a process of watching periodically the progress of a project/programme in order to identify strengths and weaknesses so that timely corrective measures may be made towards optimizing the effectiveness and efficiency of the programme.

Leonardo de la Cruz (1986) defines monitoring as "a process of periodically watching the progress of a programme or project with a view to identifying short comings and taking appropriate corrective measures. It also means an assessment of whether or not an intervention is operating in conformity to it's design and reaching its specified target population."

According to Feyereisen (et. al. 1976),

> "Monitoring techniques are employed rather than there being a concentration on results alone. The monitoring techniques ..... could be thought of as being analogous to qualitycontrol techniques used in industry. In the television industry, for example, the various components that go into making a television set are tested prior to the assembling and testing the completed set. The implications for education are apparent. We should not depend on standardized tested administered infrequently to provide us with data concerning the state of the system. Other monitoring techniques should be employed at frequent internals to identify the problems and dysfunctions before they become serious.

Sharma (1985) considers monitoring as part of evaluation. According to him, the main objectives of monitoring are as follows:-

i) to assess the progress of programme with reference to their immediate and long term objectives;

ii) to identify necessary action in order to ensure efficiency and effectiveness of the programme;

iii) to provide feedback information on future programme needs.

The process of monitoring is divided into the following four stages:

a) Planning.
b) Inputs.
c) Processes, and
d) Outputs.

In monitoring usually the following components of a programme are monitored: Objectives, programme

inputs, substantive and conceptual thrusts, programme process and the delivery of programmes to the intended group.

Monitoring provides useful information to the programme planners and to those engaged in implementation. It provides evidence and data for taking appropriate decisions concerning the following:-

i) to find out, if the programme is going on as planned;

ii) to find ways and means to overcome problems, make some changes and introduce new ideas into the programme as needed;

iii) to strengthen or expand the programme from one cycle to the next, and,

iv) to meet programme accountability to internal and external authorities.

Monitoring is classified in different ways. Sharma (1985) classifies monitoring as follows:-

a) Financial.
b) Administrative or Management.
c) Academic or Technical
d) Physical.

Leonardo de la Cruz (1986) on the other hand, identifies five types of monitoring:-

i) Financial monitoring.

ii) Administrative or Management monitoring.

iii) Technical/Academic monitoring.

iv) Coverage and Delivery monitoring.

v) Physical equipments and Materials monitoring.

To be able to undertake an efficient and effective monitoring system there are certain pre-requisites. These are:

1) regularity in submission of reports and returns at regular intervals;

2) Accuracy of information which provides credibility to the programme;

3) Promptness in analysis and supply of feed-back information to the persons concerned; and,

4) Completeness of information.

Most of the population education prrgrammes are funded by UNFPA and other international agencies. The funding agencies require information regarding proper utilization of funds and progress of the programmes. The accountability is monitored in the following forms: a) Coverage accountability; b) Service delivery accountability; c) Fiscal accountability and, d) legal accountability.

On the other hand, evaluation is considered as a more in-depth analysis of the impact of a programme or a project. Evaluation is considered as the process of making judgements of worth and decisions on the basis of information collected for those purposes.

The Training Manual on Monitoring, Evaluation and Evaluative Research in Population Education published by the University of Philippines (1986) distinguishes evaluation from 'Monitoring' as "the gathering of informating which can be used as bases for forming judgements which in turn can be the bases for making decisions."

Ansar Ali Khan (1986) considers evaluation as "a continuous process which commences with pre-programme evaluation formative evaluation and ends with summative evaluation."

Sharma (1986) considers evaluation as simply a tool to measure and assess the progress achieved in meeting the objectives of a project. In the case of a population education project, this would be to find out whether it has brought about changes in the attitudes and behaviours of the persons concerned. Another important purpose of evaluation is to take stock of inputs and outputs of the programme in order to know the worthwhileness of efforts and also to consider whether any actions need to be modified or strengthened.

Earlier it has been pointed out that there is no consensus on the definition of population education programme and that these programmes vary from country to country. Similarly there are conflicting views regarding the effects and impact of the population education programmes.

In the countries of Asia and the Pacific the indicators of success of a population education programme usually are the project inputs viz., the variety and number of curriculum/training and instructional materials and the numbers of educators who were provided with program orientation, number of teachers and field workers trained. However it may be pointed out here that determining the achievements with respect to processes and inputs is more important.

There are four types of evaluation namely a) context evaluation, b) input evaluation, c) process evaluation, and d) product evaluation.

Evaluation is a continuous process. It commences even before a programme begins and it doesnot end as long as the programme is in action. Population education programmes are difficult to evaluate because of several reasons. One of the major reasons is that there is no accepted system for evaluation.

Dr.Jacqueline D. Sherris (1982) categorizes the evaluations conducted in population education into the following categories:-

"i) Baseline studies focussing on teacher, student and community attitudes and curriculum content before the program begins.

ii) Operational research, focussing on pilot tests of curriculum changes, new units, materials and teacher training strategies (sometimes called "formative evaluation").

iii) Assessments of implementation, focussing on the extent of teacher training, materials development, and, to a lesser degree, on classroom application.

iv) Measurement of impact on students in terms of changes in knowledge, attitudes, and- "in-the future perhaps - fertility - related behaviour."

Evaluation of Training

'Evaluation of Training' according to the International Dictionary of Education (1978) is "Industrial training term for consideration of financial, social and cost effectiveness of a particular course or

training. Evaluation of training is normally distinguished from validation, which is concerned with training effectiveness."

Hamblin (1970) defines evaluation of training as

" any attempt to obtain information on the effect of training programme and to assess the value of the training in the light of information which includes investigation before, during as well as after training ."

Bhatnagar (1987) considers evaluation of training as

" a series of measurements of performance and impact of training programmes on the individuals and the system as a whole. It is done for fact-finding, description, comparison, comprehension, análysis, explanation and adaptation of the training strategies, to make them more useful for the target beneficiaries ."

Earlier in Chapter Eleven the strategies adopted for training population personnel was discussed. Efforts to train these personnel have often concentrated on training as many persons as possible within short span of time. The emphasis on large numbers has often lead to neglect of assessing quality of these programmes. In a few countries, however attempts have been made to assess the quality of the training programmes. Another issue that is related to this is that there is a paucity of instruments that can be used for evaluation.

The Manual on Evaluation in Population Education (UNESCO 1979) points out that evaluation of training should be carried out for two important reasons. Firstly, to determine the extent to which the objectives of the training have been achieved, and secondly, to bring about improvements in the planning and implementation of the training programme including the evaluation processes themselves.

Udai Pareek and Rao (1981) consider that answering the following four questions will help to plan evaluation of training more systematically. They are:-

1) **Why** should we evaluate training?

2) **For Whom** should training be evaluated?

3) **What** should be evaluated in training?

4) **How** should training be evaluated?

Further Udai Pareek and Rao (1981) opine that the following dimensions should be considered for evaluation of training:

a) Context

b) Inputs

c) Outputs

c) Process

According to Bhatnagar(1987) evaluation consists of two elements, viz., Data provision and Decision Making. He identifies 10 processes. They are as follows:-

1) How?	This refers to techniques of evaluation.
2) What?	refers to aspects of training that are to be evaluated.
3) Who?	refers to an individual group, agency who will be providing the data for decision making.
4) Where?	refers to both location and population under study.
5) When?	refers to time of evaluation.
6) Why?	refers to rationale, logical, psychological and chronological aspects of evaluation.
7) Whom?	refers to decision makers.

8) What? refers to types of data anticipated and also adequacy and relevance of the data.

9) Which? refers to different types of criteria used for decision making.

10) Whose benefit? refers to the beneficiaries of the evaluation programme.

The evaluation of training in population education is divided into the following three stages(UNESCO 1979):

1. Pre-training evaluation or context evaluation.

2. In-training or process evaluation. This is also called as formative evaluation.

3. Post-training evaluation or product evaluation. This is also called as summative evaluation.

Pre-Training Evaluation

Pre-training evaluation provides the essential data which forms the basis for designing the training programme. The training programme that will be designed should be need based. The needs of the trainees as well as the needs of the organization should be taken into consideration before organizing the training programmes. Therefore the pre-training evaluation consists of conducting baseline studies to obtain data on knowledge, attitudes and skills of the trainees. With the help of a detailed analysis of the data the existing discrepancies are identified. This information becomes the basis for selecting objectives for training programmes. The assessment of training needs is the basic step in pre-training evaluation. According to Bhatnagar (1987) the assessment of training needs can be examined on the basis of the following questions:-

" a) To what extent current knowledge, skills, attitudes and attributes were available before the training programme was launched?

b) To what extent the organisation knew the felt needs of potential trainees and was able to assess and incorporate realistic training tasks in right perspectives in a given training programme? and,

c) To what extent there was gain in knowledge, skills, attitudes and attributes developed as a result of training?"

In order to make the training realistic and need based, an in-depth study of the neds before and after the training is a must.

There are different tecnhiques and methods of determining the training needs in the field of education and other fields like agriculture and rural development. Udai Pareek and Rao (1981) enlist the following techniques of identifying training needs in the field of education:-

1. Analysis of job performance or job related activities.
2. Analysis of problems.
3. Diagnostic workshops.
4. Studies of good and poor performers.
5. Interviews with role set.
6. Observational techniques.
7. Performance appraisal reports.
8. Attitude surveys.
9. Re-organisation or Administrative changes.
10. News paper and journal articles.
11. Analysis of correspondence and decisions.
12. Brain-storming.
13. Critical incidents techniques.
14. Other techniques like: (a) Small group

discussion. (b) Prioratizing the needs.

Bhatnagar (1987) lists the following methods of determining training needs:-

a) Surveying

b) Conducting organizational Audits.

c) Performance-appraisal-records and need analysis techniques.

d) Mailing trainings-needs-questionnaire.

e) Pre-tested achievement tests.

These are some of the methods which are commonly used to assess the training needs. With the help of any one particular method or a combination of methods an evaluator may formulate or reformulate the training objectives.

The assessment of training needs also helps in designing training programmes. This includes selection of appropriate training strategies, learning activities and the management system.

While planning the programme the following should be considered:- Procedures, materials, facilities, staff and budget.

In-Training Evaluation

This is evaluating the training programme when it is going on. This evaluation is also called as formative evaluation. The basic purpose of this evaluation is to find out the extent to which the programme being implemented as it was planned and whether any improvement needs to be made, if so what. The emphasis of this evaluation is to see that the objectives of the programme are achieved. The idea of formulative evaluation was put forward by Seriven in the year 1967.

As the formative evaluation takes place during the formation stage of the programme, every effort should be made to use the results of evaluation for improving the process. By collecting and analysing the data during the process of the training programme, the changes that need to be made in the training can be decided. Additional learning

activities, practice sessions, tutoring or remedial activities may be taken up.

In-training evaluation is done with the help of short tests, informal talks with the trainees, observation scales and opinionnaires. For the purpose of formative evaluation, constituting a steering committee consisting of the representatives of the trainees is considered as an extremely valuable technique.

Post-Training Evaluation

This is also called as summative evaluation. After the training programme is over, it is important to find out how far the training was successful in achieving its objectives and also to find out the extent to which the changes in knowledge, attitudes and skills can be observed. The summative evaluation is done through the use of comprehensive tests, demonstration lessons, comments of observers and experts, impressions of the trainers and trainees, evaluation checklists. Usually all training programmes conducted in population education have built-in evaluation mechanisms. The increase in trainees knowledge about population education and change in their attitudes is assessed with the help of pre and post-tests.

Evaluating Teacher Training Programmes

A few models have been developed for evaluating training systems. These models have been discussed in Population Education Research Utilization Monograph on Teacher Training Evaluation in Population Education developed by Norma Munoz-Paraiso of Philippines (1977). Most of these models were not specifically designed to evaluate teacher training programmes. These models are:

1. An evaluation Model for decisions before and during training.
2. The discrepancy model for training.
3. A training evaluation cycle.
4. The K.A.P Model.

1. An Evaluation Model for decisions before and during Training

This model was developed by United States

Civil Service Commission. There are three steps in this model. Step one represents the desired outcomes of the training course which teachers are expected to exhibit. Step two represents the minimum acceptance level of achievement for each objective stated in step one. Step three represents the process by which the training specialist determines on a continuing basis whether the trainees are exhibiting the required standards established in step two. The step three is a part of continuous feedback loop consisting of the following components:

1. An ongoing training course designed to accomplish the objectives.
2. Systematic and continuous collection of data regarding achievement of the trainee.
3. Analysis and interpretation of the data with reference to step two.
4. Appropriate course modification.

2. The Discrepancy model for Training

This model was developed by Hickerson and Middleton in 1975.

This model consists of six phases.

Phase I & II: Task Analysis & Decision to Train

Task analysis is a systematic process of defining a job, determining what performance discrepancies exist in that job, and providing a basis for selecting relevant, and critical training objectives to pursue. It helps the trainer to identify those discrepancies which can best be covered by training. For this reason, it guarantees that training will prepare trainees to solve on-the-job problems.

Phase III: Setting Training objectives and Formative Evaluation Procedures

If it is decided that training is needed to do away with performance discrepancies, then the trainers should use these discrepancies to set training objectives.

Phase IV & V : Designing Training & Implementation

Designing training consists primarily of planning learning activities which will help trainees to achieve training objectives. During the implementation of the training course, formative evaluation strategies are used to identify flaws and suggest modifications in present and future training programmes.

Phase VI: Follow-Up Support & Summative Evaluation

At the end of the training programme, the trainer continues to evaluate his trainees by providing them follow-up support on the job. Follow-up support strategies basically aim at extending the supportive atmosphere of training into the job, and help trainees to apply their new learning to the reality of their job. On the other hand, summative evaluation is used to determine whether achieved objectives indeed eliminated performance discrepancies.

This model has two distinct feedback loops. The first, links formative evaluation with phases III to V. This linkage shows that formative evaluation is used primarily to modify training objectives, training design and its implementation. The second, which links summative evaluation with analysis (this includes phase I & II), states how well training changed performances. This analysis helps the trainer decide whether to train another batch of trainees. The feedback loops and the linkages depict the continual nature of the analysis-decision training-evaluation process.

3. A Training Evaluation Cycle

This model was developed by Hamblin in 1974. It consists of five levels of training effects which correspond to the five levels of objectives setting and evaluation. These levels are: reactions, learning, job behaviour, organization and ultimate value.

Reactions consists of trainee opinions regarding training. Evaluation of these reactions must be carried out selectively because the variables that affect them cannot be controlled. This means that the evaluator must first determine his reaction obje-

ctives, and for that matter, all his objectives at the particular level of evaluation he is interested in.

Definitions of other levels of the evaluation model are as follows:-

Learning	-	acquisition of the ability to behave in new kinds of ways.
Job behaviour	-	application of learning on-the-job.
Organization	-	effects of any behavioural changes on the functioning of the organization.
Ultimate Value	-	Judgement of whether the training has been worthwhile in terms of the ultimate criteria or goal of the organization.

There is a cause and effect chain linking all five levels. Training leads to reactions which leads to learning which leads to changes in job behaviour which leads to change in organization which leads to change in the achievement of ultimate goal.

This cause and effect chain may break at any point. A trainee may react correctly, but fail to learn or he may learn but fail to react. The evaluator has to find out which of the links has been broken and how to mend it.

The KAP Evaluation Model

This model was developed by Norma Munoz-Paraiso.

In this model decision areas are categorised under the three stages of training programme development, namely, pre-training, in-training and post-training. Data levels are positioned according to their utility in each decision area.

At the pre-training stage, system assessment requires baseline measures or current status assessments. These guide the formulation of objectives

at each training level, namely, knowledge, reaction and job behaviour (KAP). The training manager at this point analyses the gap in knowledge, skill and reaction (attitudes) identified by system assessment. Based on the information, he re-orders the program's priorities, selects training and evaluation procedures, and maps out the training processes and procedures which will best satisfy identified KAP gaps.

During training, the evaluation design calls for the costruction of instruments for assessing the trainees' progress toward the fulfilment of training objectives at the learning, reaction and job behaviour levels. The information obtained is collected and fed back to a training specialist for use in making course adjustments. Upon completion of the training programme, post-tests (in the form of paper and pencil tests, questionnaires, and follow-up classroom visits) are administered to obtain summative data which will eventually determine the continuation or non-continuation of the entire training programme.

In this Chapter an attempt was made to briefly sketch a few aspects of monitoring and evaluation in population education. Since 1970s there has been a sporadic increase in the number of researches and evaluative studies. Even though it is desirable to present all the details regarding the attempts to evaluate different aspects of population education programme, it is not possible to do so within the limited scope of this work. Moreover the general audience to whom this book is addressed to may not be enthusiastic to read such information.

Studies have been conducted to evaluate different aspects of population edcation programmes. Many baseline surveys have attempted to assess knowledge, attitude and behaviour of parents, teachers and students with regard to population issues, family planning and about the desirability of introducing population education into the school curriculum.

Studies that were conducted to evaluate personnel training have evaluated the effectiveness of the training programme in terms of changes in

knowledge, attitude and skills in the trainees. Some of them have also attempted to study the way the training programmes are conducted & managed. Studies attempting to assess the impact of training programmes are few in number. Follow-up studies in this area are almost nil. Inspite of several years since the inception of population education programmes, it has not yet been possible to determine the effective training model which is both economical and administratively feasible. There has been no systematic documentation analysis available.

Evaluation of curriculum and population education programme materials has been the least developed area. There are content analyses which have attempted to identify the entry or plug-in-points. But baseline researches in this area are almost absent. Often curriculum materials have been developed without taking into account the needs of the learners and their readiness. Till date no single attempt has been made to identify miniumum learning requirement in population education.

Most of the studies conducted to evaluate teaching methodologies attempt to compare the effectiveness of one strategy of teaching with the other. There are conflicting results. Often it has been found that the teachers have limited knowledge about the modern methods of teaching. Many researchers opine that there are a lot of factors which need to be explained to the teachers. Many empirical studies are required to facilitate correct and effective use of non-traditional methods of teaching population education.

The population education programmes are evaluated in different ways by different agencies like UNESCO, UNFPA and Government. Most of these are in the form of reviews. One significant thing to note is that many country programmes have paid little attention to self evaluation and regular monitoring. Because of these reasons UNFPA has setup a monitoring system. There are three types of monitoring and evaluation activities that are regularly being conducted. These are as follows:-

1. Project Progress Report (PPR)

This is a qualitative and quantitative appraisal

of the progress of the project. This is done for reporting the status of the project rather than evaluating it. This is prepared by the implementing agency in the particular country.

2. The Tripartite Project Review (TPR)

This is an evaluation conducted by three parties viz., International Funding Agency, Executing Agency and the Government. This reviews the status of the project expenditure and feasibility of the implementation of the allocated budget. It also assesses the extent to which the objectives of the project have been achieved.

3. Annual Country Review (ACR)

This examines the progress of the UNFPA sponsored programme and the impact of the programme activities on the country's population and development programmes. It also formulates recommendations for effective utilization of project results.

****

Chapter 14

Agencies involved in Population Education

All over the world several organizations have engaged themselves in many activities related to population education. Co-operation and funding of population education projects is provided by many International donor Agencies. Some of them are:-

1. The Path Finder Fund
2. The Ford Foundation
3. UNFPA
4. UNESCO
5. USAID
6. ESCAP

7. IPPF
8. UNDP
9. World Bank
10. World Education Incorporated
11. ILO
12. FAO
13. IDA
14. Colombo Plan
15. Negative Population Growth
16. International Population Institute
17. Population Council
18. Population Crisis Committee
19. Population Institute
20. International Union for the Scientific Study of Population (IUSSP)
21. World Population Society
22. Population Resource Centre
23. Zero Population Growth
24. Committee for International Co-operation in National Research in Demography (CICRED)
25. The Ontario Institute for studies in Education (OISE)
26. East-West Communication Institute, Honalulu
27. Population Association of America Inc.
28. Population Reference Bureau, Washington
29. Society of Population Educators, Chicago
30. Agency for International Development (AID)
31. United Nations Association, Sweden
32. World Assembly of Youth (WAY), Belgium

Several Universities such as:-

a) University of Chicago
b) University of Hawaii
c) Florida State University
d) Columbia State University (Teachers College)
e) The John Hopkins University
f) University of Stockholm
g) University of North Carolina

The above list is not exhaustive. Only a few organizations have been listed. In the following pages a brief description of organizations like International Planned Parenthood Federation (I P P F), United Nations Fund for Population Activities(UNFPA), National Council of Educational Research and Training (NCERT), United Nations Educational, Scientific and Cultural Organization (UNESCO) and Family Planning Association of India (FPAI) is given.

International Planned Parenthood Federation(I.P.P.F.)

The IPPF is an international non-governmental organisation which has founded at an international conference in Bombay, in 1952 by the family planning associations of eight countries - the Netherlands, Hongkong, India, Singapore, Sweden, the United Kingdom, the United States, and West Germany. At present it is an independent world body that unites national family planning associations in one hundred countries. IPPF believes that knowledge of family planning is a basic human right and that a balance between the Population of the world and its natural resources and productivity is a necessary condition of human happiness, prosperity and peace.

Today IPPF is the second largest non-governmental organization in the world, after the Red Cross, in terms of the global spread of its activities and the volume and scope of its operations. For the past few years it has operated with an annual international budget of about $ 50 million, most of which is distributed in grants to international family planning associations in grants to international family planning associations in developing countries. IPPF Policy is drawn up by a Governing Body composed of representatives from its six Regions. Specialist Committees, composed of international experts, meet regularly to advice on the medical, biological, sociological and communication aspects of planned parenthood. The autonomous national family planning associations which together form the IPPF must meet certain requirements for membership; among others, they must be independent of commercial interests and free from discrimination regarding race, creed, colour, politics and sex.

The aims of IPPF are as follows;-

1. To stimulate the formation of national family-planning associations throughout the world.
2. To advance the education of the countries of the world in family planning and responsible parenthood in the interest of human rights, family welfare, community well being and international goodwill.
3. To increase the understanding of the people and the Governments of the demographic problems of their own communities and of the world.

4. To provide an international platform to give expression to the aims and activities of its member associations, and to co-operate with the United Nations and other international, regional and governmental agencies.

5. To stimulate appropriate research in the fields of Biology, Demography, Sociology, Economics, the eugenic and Psychological implications of human fertility and its regulation, methods of contraception sub-fertility, sex education and marriage counselling.

6. To provide, through its central and regional organizations, information, technical advice, training facilities and financial assistance, at least until such time as associations can become financially viable.

7. To seek either directly, or through member associations, to persuade governments and community leaders of the urgent need to provide family-planning facilities.

8. To encourage practical experiments with new contraceptive and organizational techniques and to emphasize the need for adequate evaluation and research.

9. To encourage and organize the training of all appropriate professional workers such as medical and health personnel, educationists, social and community development workers in the implementation of the objectives of the Federation.

10. To stimulate public awareness all over the world through press contacts, international and regional meetings, private discussions, mass media and visual aids, and the publications of Journals, handbooks, and pamphlets, both centrally and locally.

11. To stimulate and assist in the formation of family planning associations in all the countries.

United Nations Fund for Population Activities (U.N.F.P.A.)

United Nations Fund for Population Activities began its operations in 1969, after two years as a Trust Fund, Population as a field of multilateral assistances was still new for most of the member states of the United Nations. Although prior to this time considerable work had been done within the United Nations on promoting technical co-operation in demographic activities there was limited experience in the delivery of assistance in population. The first few years of the Funds work was therefore devoted to creating awareness of the importance of population factors in development and to building up the capacity of the United Nations organization to deliver population assistane to countries in need at their request. During this period understanding the dimentions of the Population problem and finding the proper and suitable forms of delivery and assistance were of primary importance.

The work of the Fund development markedly after General Assembly, in 1972, placed the Fund under the Assembly's authority and decided that the Governing Council of the United Nations Development Programme should be its governing body under the policy guidance of the Economic and Social Council which defined the Funds aims and purposes in 1973. Thereafter, the Fund assumed its own distinct identity.

In 1969, the Fund was engaged in 12 Projects. By the end of 1980, the UNFPA was assisting 1,831 Projects; 1,135 had been completed. Projects range in size from $ 100 million to a few thousand dollars. The Fund began its operation with $ 2.5 million in 1969; by the end of 1980 its cumulative resources totalled $ 726.4 million.

The work of the Fund became universal in its first decade. The fund has assisted population projects in 121 member states of the United Nations and about 14 other countries and territories. Its worldwide role has been furthered by voluntary contribution from many member states.

The United Nations Fund for Population Activities

is a subsidiary organ of the United Nations General Assembly with aims and purposes outlined in 1973 by the Economic and Social Council as follows:-

a) To build up, on an international basis, with the assistance of the competent bodies of the United Nations system, the knowledge and the capacity to respond to national, regional, interregional and global needs in the Population and family planning fields.

b) To promote co-ordination in planning and programming, and to co-operate with all concerned.

c) To promote awareness, both in developed and in developing countries, of the social, economic and environmental implications of national and international Population problems; of the human rights aspects of family planning; and of possible strategies to deal with them, in accordance with the plans and priorities of each country.

d) To extent systematic and sustained assistance to developing countries at their request in dealing with their Population Problems; such assistance to be offered in forms and by the means requested by the recipient countries and best suited to meet the individual country's needs;

e) To play a leading role in the United Nations system in promoting population programmes and to co-ordinate projects supported by the fund.

World Population Conference held in Bucharest in 1974 brought in heavy requests by developing countries to the UNFPA for assistance for Population activities that the Fund found it necessary to institute a priority system regarding the future allocation of its resources. It developed a set of general principles to carry out its work. These principles, which were endorsed, by the Economic and Socialk Council and the General Assembly in 1976, are (1) to promote Population activities proposed in international strategies, particularly the world population plan of action; (2) to meet the needs

of developing countries that have the most urgent need for assistance in the area of Population activities, in view of their population problems; (3) to respect the sovereign sight of each nation to formulate, promote, and implement its own population policies; (4) to promote the recipient countries' self-reliance; (5) to give special attention to meeting the needs of disadvantaged Population groups.

The Fund has sponsored or taken an active part in a variety of conferencess in recent years designed for leaders and opinion makers to ensure that understanding of Population issues reaches people everywhere. In 1979, the Fund Co-sponsored with inter-parliamentary Union, an International Conference of parliamentarians on Population and Development in Colombo. Sri Lanka. The conference provided interested parliamentarins from 58 countries an opportunity to discuss the main population and related development problems facing the world to acquaint themselves with current demographic trends and to define areas of action in which they, as representatives of the people, could supplement and enhance Population efforts of governments. In 1980, the UNFPA convened a Conference, in Rome, of national planning officials from thirty-one countries and mayors and community leaders of forty-one rapidly growing cities that are projected to have Population of 5 million or more by the year 2000. The conference had three objectives to increase the awareness and understanding of population factors in urban planning at local and national levels; to bring to the attention of planners, policy makers, and administrators the result of recent research and experience on urban issues and problems; and to provide a forum where all the parties involved in urban management could share problems and possible solutions, identify areas that have hitherto been neglected, and formulate ideas and proposalsfor future action.

The UNFPA publishes a quarterly "Populi" a monthly newsletter; an annual Inventory of Population Activities in Developing Countries around the world; and an Annual Review of Population Law; as well as annual reports of its own activities. A partial list of other publications includes the following: Guide to source of International Population

Assistance; Survey of Laws on Fertility Control; Population policy compendium and Population in the Arab World: Problems and proposals, by Andel-Rahim Omran. Population profiles have been published on nations and regions as well as on issues such as Law and Population; Population and mutual Self-reliance; Women Population, and Development; and Labour and Population. Conference reports include the Report on Latin American Conference on Population and Development Planning; Report of International Conference of parliamentarians on Population and Development; and Report of the International Conference on Population and the Urban. Further, Population facts at Hand provide basic data on global and national population as well as data on historical trends in Population in a convenient index card format.

The pattern of UNFPA assistance to Population Programme in India, which is a priority country for the fund, conforms to its major policy aims. First, infant mortality has to be further reduced. Second, all couples should have access to family planning information and services. Third, the idea of a small family should be promoted in accordance with prevailing cultural practices. UNFPA has been active in India from 1969 and it began its work with support to the Demographic Training centre in Bombay. The current UNFPA supported programme focussed on the states of Bihar and Rajasthan.

National Council of Educational Research and Training (N.C.E.R.T.)

National Council of Educational Research and Training (N.C.E.R.T.) was established on 1st September 1961 with its headquarters at New Delhi for providing academic support in improving the quality of school education in India. N.C.E.R.T. acts as a academic adviser to the Ministry of Education and Culture. In formulating and implementing its policies and programmes in the field of School Education the minitry draws upon the expertise of N.C.E.R.T. It is wholly financed by the Government of India.

Functions:

* Develops curriculum, instructional materials,

Methods of Teaching, techniques of Teaching, Teaching Aids, Kits and equipments, learning resources etc.,

* NCERT organises pre-service and in-servie training for teachers, teacher educators and the other educational personnel.

* NCERT conducts and promotes Educational Research, disseminates improved educational techniques and practices and research findings.

* NCERT acts as a clearing house for ideas and information on all matters relating to school education.

Population Education Cell

On the recommendation of National Seminar on Population Education, held at Bombay in October 1969, the Ministry of Education took the decision to introduce Population Education in Schools. For implementing this decision, a separate unit known as population Education cell was created in the N.C.E.R.T.

One of the important functions of the Population Education cell N.C.E.R.T. is to produce relevant literature on Population Education for the benefit of those working in this new field of education. The types of things that are being undertaken under this programme include the development of curriculum, hand books for teachers, guides for teacher-educators and materials useful for educational planners in this area and it publishes some very thoughtful articles and papers written by experts in this area.

For implementing Population education activities N.C.E.R.T. has developed draft syllabus in Population Education and prepared Population Education textual lessons and referenc, resources materials and has prepared supplementary reading materials, bibliographies and kit of evaluation tools for awareness tests and assessment of different components of the project and has prepared Audio-Visual Aids package on Population education and inventory of research studies in Population education.

The Population Cell of NCERT has organised a series of All India workshops for the Deans and Heads of the Departments of education, principals and members of the faculty of training Colleges to initiate and strengthen pre-service and in-service teacher training programmes in Population education. This unit works as a clearing house and a documentation centre for the benefit of university and training college centres. This unit has undertaken small projects, research studies and action research programmes in this new area at school and training College levels.

NCERT is working with international agencies like UNESCO, UNICEF in the field of Population Education, Environmental Education, Educational Technology etc., N.C.E.R.T. has four Regional Colleges at Ajmer, Bhopal, Bhuvaneswar and Mysore, and these Regional Collages conduct seminars, workshops conferences and orientation programmes involving large number of teachers, teacher educators and educational administrators at various levels.

NCERT is working with collaboration of Health Education Bureau, Central Family Planning Institute, State Educational Training Institutes and other agencies interested in the programmes.

The Unit of Population Education has published some useful reading materials in Population Education. Some of the Publications are as below:-

* National Seminar on Population Education
* Readings in Population 1969
* Population Education in School curricula. A working Document 1970.
* Plub-Points for Population Education in School Curriculum 1971.
* Population Education a Draft - Classes I to XI.
* A Bibliography on Population Education 1971.
* Population Education: Selected Reading, 1972 National Conference on Population Education Problems of implementation, 1972.
* Indian Population Situation 1971.
* Nutrition and Population Education - A Resource Book for Teachers - 1973.
* Population Education: Current problems in Educational series.

* Teaching units on Population Education 1973
* Population Education for teachers, 1974
* Dinu Dakiya - A Supplementary Reader in Hindi - 1973
* Bhavishya Ke Sapna - A Supplementary Reader in Hindi 1972.

The unit distributes these reading materials and Books to all Universities, State educational institutes and Teacher Training Colleges free of Cost.

United Nations Educational, Scientific and Cultural Organisation (UNESCO)

United Nations Educational, Scientific and Cultural Organisation was established on 4th November 1946 with its Head Quarters in Paris for which India is one of the founder Members. It is a specialised agency of the UN system with a range of activities. The largest sector of UNESCO activity is Education. UNESCO has taken a good deal of interest in the field of Population Education also.

In the mid-seventies, it became obvious to UNESCO, and to those who were attempting to improve education in Population matters, that a study of the state of the art in this field was needed. The regional Population Education Programme in Asia and the pacific derives its mandate from the existence of a Population pressure which is impinging on development in the region. Recognising the need for educational action to alleviate the Population problem, UNESCO has developed Population Education Programmes at the global, national and regional levels. The general conference of UNESCO at its seventeenth conference authorised the Director-General to pursue and undertake activities for the promotion of Population Education. To carry out this mandate in the region, a Population Education Programme Service was established in the UNESCO Regional Office for Education in Asia in 1972 and financed by the United Nations Funds for Population Activities (UNFPA). The programme is manned by a Regional Advisory Team which consists of a Regional Advisor, a specialist in curriculum development, a specialist in Out-of-School and Adult Education. The UNESCO Regional Advisory Team has helped in establishing national Population Programmes in 14 Countries in Asia.

The Population Education Clearing House of the UNESCO Population Education Programme Service, acquires, analyses, transfers and disseminates to Population Education Professionals in Asia and Oceania information relating to all aspects of Population Education. The Objectives are:-

1. To promote among all persons in the countries connected with the educational process in in-school and out-of-school.

   a) an intelligent understanding of Population issues that impinge on the quality of life of the individual the family and the nation;

   b) discussion-making processes, attitudes and behaviour in regard to Population issues, taking into account the interrelationships between Population change, quality of life and development.

2. To assist the member states in building up and organising their information services in Population education in order to provide adequate information, support to national programmes of Population Education.

3. To serve as an information resource base at the regional level from which national authorities may draw information and materials.

4. To promote inter-country flow of materials and information by serving as a centre for the collection and redistribution of information from other population education programmes and information centres.

5. To serve as a link between Population Education resource units and centres in countries of Asia and Oceania.

Subject Coverage & Resource Base

The Population Education clearing House has in its Collection a comprehensive coverage of Population Education materials developed mostly in Asia and oceania that covers curriculum and instructional materials for Population Education; descriptions of training programmes and traioning materials; theories, principles, methodologies and content of Population Education; research and evaluation studies; Programme descriptions showing how Population

education is integrated into various subject areas like mathematics, social studies, science and health and also into different development programmes like agriculture, health, nutrition, literacy, labour and human settlements. In addition to these, its section on knowledge base materials related to Population Education cover the areas on Environment and ecology, Health and health education, Home Economics/ science, Women Programmes, Demography, Food/Agriculture and Population education, Labour and Labour education, Human sexuality, Geography, Family Planning Programmes, Rural Development, Socio-Economic and Psychological Sciences, Population Communications, and Literacy and adult education. Its resource base is as follows:-

Books and other forms of Publications - 6000;

Periodical titles-120; Audio-Visual materials 130;

Languages: English & national languages of region.

Services offered by the Population Education Clearing House of UNESCO

The main function of the Population education clearing House is to acquire, analyse, transform and desseminate materials relating to all aspects of Population Education for the use in national Population Education Projects in both the in-school and out-of-school sectors. These materials come in the form of bibliographies, abstracts, newsletters, reviews, reprints, actual curriculum and training materials developed by the Member states. In addition, information is also provided through inquiry, current awareness and selective dissemination of information service. It also provides technical and advisory services by assisting Member States in developing their Population Education Libraries, and collection or reference centres, and trains some of those who will staff these libraries and provide documentation and information services. It identifies highly useful Population Education materials from the Member states, provides funding for translation if they are in the national languages acquires them in bulk and redistributes them to other Member states. It also loans audio-visual materials to Member states for their Training and Orientation programmes and activities. It distributes packages of various forms

of materials on the different Population Education and related topics to small group of audiences who are highly interested in these topics. The regional Advisory Team helps to build a reservoir of national expertise, serving as a catalyst, and identifying innovative experience in a country and facilitating the sharing and use of these by another country via conferences, meetings and study tours, and exchange of personnel, information and materials. Acquisition, transformation and dissemination of information and materials in the Population Education clearing House are done in strict accordance with the needs and resources of the Member states, and other internationl resource centres.

Family Planning Association of India(F.P.A.I.)

The Family Planning Association of India was established in 1949, with its Head quarters at Bombay. Family Planning Association of India is Founder-member of the International planned parenthood Federation. F.P.A.I., is the voluntary organisation devoted to promoting knowledge of family planning as a basic human right, as well as Population policies which can help to bring about a balanced development of the resource of the country, both from human and material as a means towards raising the quality of life. Family planning Association of India which is a pioneer voluntary organization dedicated to the solution of Population problem of the country and which has a long background of field work and experience in population matters had come forward with a missionery zeal to take population education to University and College levels.

The Association is a non-political,non-sectarian, non-profit making organization consisting of volunteer members and staff. It functions through its Head Quarters at Bombay and 42 Branches and 21 Rural integrated projects situated in different parts of the country. These branches are running family planning clinics with grant-in-aid from government of India. The Association has trained several hundreds of doctors, health visitors and social workers. One of the activities of the Headquarters is to answer enquiries on Family Planning by correspondence or by personal interviews.

Aims and Objectives of FPAI are as follows:-

1. To disseminate knowledge and education

about, and to promote the adoption of the practice of Family planning for the advancement of basic human rights, family and community welfare. The achievement of the balance between population, resource and the environment and the attainment of a higher standard and quality of life.

2. To assist wherever possible in the national programme of Family planning by undertaking to carryout various activities of a complimentary, supplimentary or innovative nature.

3. To study and formulate policies and programmes regarding the provision of measures for Family Planning, Population control and allied subjects, and plac its considered views and advice before Government and other agencies whenever appropriate.

4. To undertake or promote studies and activities in regard to services, training, education and research programmes covering the demographic, sociological, economic, medical and other relevant aspects of human fertility and its regulation including methods of contraception, sterility and sub-fertility, sex and family life education, marriage counselling population education and human energy.

5. To collect information and statistics and to organise conferences, seminars, training courses and other meetings, whether local, national or international in the furtherance of the aims and objects of the Association.

6. To establish branches and other units for the promotion of the Aims and objectives.

7. To foster and develop contacts with other organisations engaged in similar type of work in India and abroad.

Functions of F.P.A.I.

1. F.P.A.I. provides information and advice to help couples to plan the spacing and number of their children.

2. F.P.A.I. supports its education-cum-motivational efforts with quality family planning

& MCH services through 164 service outlets in different parts of the country.

3. F.P.A.I. organises conferences, seminars and workshops to generate and intensify programme support, to widen community involvement and to facilitate exchange of experience for rural and urban leadership groups. for family planning and health personnel, for local volunteers.

4. F.P.A.I. promotes Population and family life education to help young people to deve - lop responsible attitudes. This F.P.A.I. conducts a variety of programmes in schools, colleges, Teacher-training-Institutions, Out-of-School sector, Remand and rescue homes, orphanages, Labour Welfare centres, Urban slums, Rural youth clubs, N.S.S., N.C.C. Camp etc.,

5. F.P.A.I. orients and trains professionals, volunteers and leadership groups to extend family planning education and services.

6. F.P.A.I. Stimulates community participation for family planning through developmental activities like running adult literacy classes, conducting balwadis, organising group discussions and demonstration on health and family planning. F.P.A.I. organises family planning activities like, informing, educating and motivating rural families to adopt family planning. Persuading young couples to use spacing methods and providing the necessary services helping to organise sterilisation camps. F.P.A.I. organises community services like building and repairing roads and school buildings, cleaning wells and purifying water, digging compost pits, constructing community halls, bus shelters, promoting social forestry etc.,

7. F.P.A.I. assists other voluntary organisations to interweave family planning education and services with their other activities.

8. F.P.A.I. Promotes activities for planned parenthood and women's development. This conducts courses in basic health and planned parenthood organised in different branch areas, help rural and slum woman to

increase knowledge and skills related to daily living.

9. F.P.A.I. conducts research and evaluation for feedback and development of innovative approaches.

10. The Association co-operates with the Government actively participating in the formulation of national policies and programmes and complementing and supplementing its activities.

The Family planning Association conducts rural projects where family planning is integrated with other developmental activities, in different parts of the country, it is also involving innovative approaches to intensify community involvement, especially in rural semi-urban areas to bring about local self reliance in programme planning and implementation for family welfare and developmental activities. The Association co-operates with the Government, actively participting in the formulation of national policies and programmes and complementing and supplementing its activities.

Population Education Cell

In F.P.A.I. there is a Population Education cell. The main tasks of this cell are given below:-

1. To study the rationale of Population Education, its content, and its operational implications.

2. To orient educational authorities and administrators, educators, teachers, parents and others as to the basic ideas underlying the introduction of Population Education in the school system and win their understanding and to support for this educational innovation.

3. To help in devising and implementing actual teaching programmes in Population dynamics and allied subjects in Universities, Colleges, Schools, social education or Adult literacy or workers education classes and in institutional and non-institutional settings.

4. To undertake or provide facilities for research which could help in developing models for teaching population dynamics.

5. To create written and audio-visual materials

for teaching purpose as well as for the direct use of children.

The Department will also have a Population Education team to carry out short extension programmes at different educational levels for teachers / students in different parts of the country and this Department is working towards developing written materials and audio-visual aids to be used in Population Education, both for the training of teachers and for direct use by pupils.

Research Projects

The Population Education Department will undertake many research projects in connection with population education such as:-

* In-depth studies of youth drawn from rural and urban communities of various educational levels, as regards their attitudes towards sex, family life and adjustments to modern life including population stabilisation.

* In-depth studies of teachers to determine their attitudes to teaching about Population, the environment, human reproduction, family life education, the importance of small families etc.,

* Surveys of parents, rural and urban to determine their reactions to school teaching as regards the above subjects.

* Surveys of educational leaders to ascertain their attitudes as regards the role of the school and of teachers in educating students to understand national problems, especially the Population problem, family life education and the like.

* The department will carryout or provide facilities for action-research projects in Population Education aimed at building up a body of knowledge about the effective techniques of teaching specific topics to be covered, as well as developing and testing course materials. F.P.A.I. Sponsored Population studies cells in selected universities.

Out-of-school activities of F.P.A.I.

F.P.A.I. has rendered pioneering services in the field of out-of-school Population Education. The F.P.A.I. has taken Population Education for out-of-school youth as one of its important programmes through its various branches in India. The Strategies employed involve the establishment of Population Education cells, Population Educatin clubs, PEN FORUM and the development of Curriculum materials. F.P.A.I. is using various forms of motivational and educational channels to reach the out-of-school youth. This includes talks, film shows, exhibitions, debates, paintings, sports/games slide shows, literacy classes, essay - competitions, puppet shows, meetings with youth and others.

Bibliography

Agarwala, S.N. **India's Population Problems,** Tata McGraw Hill Publishing Company Limited, New Delhi, 1985.

Agarwala. S.N. **Population,** National Book Trust India, New Delhi, 1984.

A nanthapadmanabhan . N. and Chandra, Ramesh, **Population Education in Class Rooms,** National Council of Educational Research and Training, New Delhi, 1978.

Arellano, Reyes, Ma Felicitas and Carmelita L. Villanueva **"The Philippine Experience in Curriculum Development For Population Education. The State of the Art".** Population Education Research Utilization Monograph series, Part I, Population Center Foundation, Philippines, 1976.

Ausubel, David.P. **Educational Psychology A cognitive View,** Holt, Rinehart and Winston, Inc. New York. 1968.

Beeby, Clarence Edward, **The Quality of Education in Developing Countries.** Cambridge, Mass, Harward University Press. 1966.

Bhatnagar O.P. **Evaluation Methodology For Training - Theory and Practice,** Oxford and IBH Publishing Co., Private Limited, New Delhi. 1987.

Brown, Lester. R and Jodi L.Jacobson, Worldwatch paper - 74, **Our Demographically Divided World**, Worldwatch Institute, Washington, 1986.

Brown, Lester. R (et.al.,)eds, **State of the World - 1984.** A World-Watch Institute Report on progress toward a sustainable society, W.W.Norton and Company, New York, 1984.

Burleson, Noel-David,(et.al.,) The time is now: **Population Education, A commentary and annotated bibliography** Harward University, Cambridge, Massachusetts. Graduate school of Education, 1969.

Burleson, Noel-David, "Comprehensive Annotated Bibiliography on Population and Family Life Education" **Journal of the International Bureau of Education (Geneva)**, Special Issue, Fall 1974.

Bustrillos, Nena, "Experience in curriculum Development in Population and related Family oriented Education in the Philippines" in Food and Agriculture organization, **Planning for Better Family Living**, Report series no.5, 1973.

Chandna R.C. **A Geography of Population**, Kalyani Publishers, New Delhi,1986.

Chandra, Ramesh, **In-service Teacher Training Programme for Population Education** in Mehta. T.S. and Chandra Ramesh (eds) **Population Education - Selected Readings**, NCERT, New Delhi 1972.

Chaurasia G. "From Stockholm to Tbilisi to Jabalpur for Environmental Education" in **Education in Asia** No.1 January 1983 pp 27 - 32.

Chen, Pichao and Kols, Adrienne, **Population and Birth Planning in the People's Republic of China**, Population Reports, Series 3, J.No.25 (Vol X no.1) 1982.

College of Education, University of Philippines, **Training manual on monitoring, evaluation and evaluative research in Population Education**, University of Philippines, Quezon city, 1 vol.1986.

Cruz, Leonardo de la. "Toward a better understanding of Population Education" in **Teaching Methodologies in Population Education** - Abstract - Bibliography series 5, UNESCO, ROEAP, Bangkok, 4984, P.47.

Edelfsen, John, "What is Population Education" in Mehta T.S. and Chandra, Ramesh (eds) **Population Education - Selected Readings**, NCERT, New Delhi 1972.

El-Bushra, Judy,(et.al.,) Editors, **Working with Youth, Some out-of-school Approaches to Population, Family life and Sex Education**, International Planned Parenthood Federation, London 1977.

Foneuff, Charles Thomas, **Action Research: Developing a Pilot Model for Teaching Population Dynamics in Mysore State, India** - Programme Design Paper 3, Carolina Population centre, Chapel Hill, 1972.

Feyerisen, Kathryn.V. (et.al..), **Supervision and curriculum Renewal: A System Approach**, Prentice Hall, Inc., Englewood cliffs, New Jersy, 1970.

Frith, D.S. and Macintosh,H.G. **A Teacher's Guide to Assessment**, English Language Book Society, Stanely, Thornes 1987.

Ghosh,B.N. **Fundamentals of Population Geography**, Sterling Publishers Private Limited, New Delhi, 1985.

Government of India, **India 1986**, Ministry of Information and Broadcasting, Publications Division, New Delhi - 1987.

Hamblin,A.C. **Evaluation of Training Programmes**, Madision, American Society for Training and Development, Madison, 1975.

Hamblin,A.C. **Evaluation and Control of Training**, 1974.

Hickerson, Francine and Middleton, John, **Helping People learn: A Module for Trainers**, East West communication Institute, Hawaii, 1975.

Hoover, Kenneth.H. **The Professional Teacher's Hand Book**, Allyn and Bacon, Inc.,Boston,1972.

I.L.O. Regional Office for Asia and the Pacific, **Population and Family Welfare Education for Workers**, Bangkok,1980.

I.L.O. Regional Office for Asia and the Pacific. **The Trade Union Leader's compendium on Family Welfare in organized Industry**, Bangkok,1984.

India, Ministry of Health and Family Planning,1972 **Progress of Family Planning Programme in India**, 1972.

Jayasuriya,J.E., **Population Education and the School Curriculum**. UNESCO Regional Office for Education in Asia, Bangkok,1972.

Jayasuriya,J.E.,"Population Education and the School curriculum", in Mehta T.S. and Chandra, Ramesh (eds), **Population Education** - Selected Readings NCERT, New Delhi, 1972.

Joyce, Bruce and Weil, Marsha, **Models of Teaching**, Prentice Hall of India Private Limited, New Delhi, 1985.

Korean Educational Development Institute; **Final Report on Teacher Training in Population Education**, Seoul, Korea, 1985.

Kols, Adrienne, **Migration, Population Growth, and Development**, Population Reports, Series M, Number 7 (vol X,No.4),1985.

Lane, Mary Turner, and Wileman, Ralph.E. **A Structure for Population Education,** Carolina Population Centre, University of North Carolina, 1974.

Lawton, Denis, **Population Education and the younger generation,** International Planned Parenthood Federation, London 1972.

Lowman, Joseph, **"Mastering the Techniques of Teaching"** Prentice - Hall of India, Private Limited, New Delhi, 1987.

Mamidi, Malla Reddy and Ravishankar (Eds), **Curriculum Development and Educational Technology,** Sterling Publishers, Private Limited New Delhi, 1984.

Mascarenhas, M.M. **Population Education for Quality of Life,** Oxford and IBH Publishing Co., New Delhi, 1982.

Mehta T.S. **Population Education,** in Mehta T.S. and Chandra, Ramesh (eds) **Population Education - Selected Readings** NCERT, New Delhi 1972.

Mehta T.S. **Curriculum Development for Population Education** in Mehta T.S. and Chandra, Ramesh (eds) **Population Education - Selected Readings,** NCERT, New Delhi, 1972.

Mehta T.S.(et.al.,), **Teaching Units on Population Education** NCERT, New Delhi,1973.

Mehta T.S. and Chandra, Ramesh(eds) **"Population Education - Selected Readings"** NCERT, New Delhi, 1972.

Mehta, T.S. and Chandra, Ramesh, **"Population Education for Teachers,** NCERT, New Delhi, 1972.

Monoz Paraiso, Norma, **"Teacher Training Evaluation in Population Education"** Population Education Research Utilization Monograph series - Part 3, Population Center Foundation, Philippines, 1977.

Nagda, Sohanlal,(Ed), **Population Science - A Multi disciplinary study,** Population Studies Center, Sri Venkateshwara University, Tirupati - India, 1975.

Naik.J.P., **Some Perspectives on Non-Formal Education,** Allied Publishers Private Limited, Bombay 1977.

National Family Planning Coordinating Board, **Population Education in Indonesia,** Centre for Education and Training, Jakarta, 1981.

Packiam.S., **Curricular Innovations and Educational Technology,** Doaba House, New Delhi, 1986.

Panda, Santhosh.K. and Swain, Nihar.R., "Environmental Education

for Adult Learners" in **The Education Quarterly**, Vol-XXXVIII, No.3, Autumn 1986, pp 4 - 7.

Pande S.K., "An experimental Comparison of lecture method and Inquiry method in Teaching Population Education to tenth grade pupils", 1984 in UNESCO ROEAP Population Education Programme Service **Teaching Methodologies in Population Education**-Abstract - Bibliography Series 5, Bangkok, 1984.

Pareek, Udai and Rao. T.V., **Handbook for Trainers in Educational Management** UNESCO ROEAP, Bangkok, 1981.

Parliamentary Conference on Population and Development in Africa, Conclusions and Recommendations, **Population and Development Review** 7 (4) 719-725,December, 1981.

Patel, Rambhai N., **Educational Evaluation Theory and Practice**, Himalaya Publishing House, Bombay, 1978.

Philippines, Ministry of Education, Culture and Sports Population Education Programme, "Value Clarification in Population Education: Research abstract", in **Teaching Methodologies in Population Education** - Abstract - Bibliography Series 5, UNESCO,ROEAP,Bangkok, 1984.

Poffenberger, Thomas, "An Experimental Education Programme in Rural India", in **Studies in Family Planning**, 2:233-37, 1971.

Poffenberger, Thomas, "Population learning and out-of-school Youth in India" in **Studios in Family Planning**, No.21, 1-5, 1971.

Poffenberger, Thomas, **Modernization and Population Education in a Developing Rural Society**, Department of Population Planning, School of Public Health, University of Michigan, 1973.

Population Centre Foundation "Value Clarification on Population Education" in **Teaching Methodologies in Population Education** - Abstract - Bibliography Series 5, UNESCO, ROEAP, Bangkok, 1984.

Population Education Programme, **Module on the value Clarification approach in the teaching of Population Education**, Manila, 1981.

Population Education Program, **Population Policies and Programs**, Manila, 1981.

Population Education Program, **Demography**, Manila, 1985.

Population Education Program, **Family Planning**, Manila, 1985.

Population Education Program, **Demographic Transition**, Manila, 1985.

Population Education Program, **Philosophy, Objectives and Content of Population Education**, Manila, 1985.

Population Education Program, **Study of the Population Education, Curriculum and PEP Materials,** Manila,1985.

Population Reference Bureau,Inc., **Population Education.** The Proceedings of the National Conference on Population Education, Ed. Judith Seltzer and Kathryn Horsley, Washington, D.C.1971.

Prakash,B.S. **Tasks and Challenges,** National Council of Educational Research and Training, New Delhi, 1985.

Ramachandran.L., and Dharmalingam T., **A Text Book of Health Education,** Vikas Publishing House Pvt.Ltd., 1983.

Sharma, R.C., **Environmental Education,** Metropolitan New Delhi, 1986.

Sherris, Jacqueline. D., **"The impact of Family Planning Programs on Fertility" Population Reports,** Series J, No.29, Vol. XIII No.1, 1985.

Sidney, Simon.B,(et.al.,) **Values clarification, A Hand book of Practical Strategies for Teachers & Students,** Hart Publishing Company, Inc., 1972.

Sinha V.C. and Zachqira, E. **Elements of Demography,** Allied Publishers Private Limited, New Delhi 1984.

Srinivasan K. and Mukerji S. (Eds) **Dynamics of Population and Family Welfare,** Himalaya Publishing House, Bombay 1983.

Tamayo, Ann Loreto **"Teacher Training Schemes in Population Education"** Population Education Research Utilization, Monograph Series 2 Part 1. Population Center Foundation Philippines, 1977.

Taylor, Carl. E., "Population Trends in an Indian Village", **Scientific American,** July 1970, pp 106 - 13.

Taylor Daniel and Hamal Hem B., **"Population Education for Nepal",** Carolina Population Center, Chapel Hill, 1974.

Thomlinson Ralph, **Population Dynamics,** Random House, New York, 1965.

UNESCO, ROEAP "Monitoring and evaluation of Population Education Programme Paper" prepared by R.C.Sharma for Presentation at the Regional

Training Workshop on Evaluative Research on Population held at Manila from 20 to 31 May 1985, Bangkok, 1985.

UNESCO, ROEAP "Evaluation of Population Education Programme" Paper prepared by Ansar Ali Khan for Presentation in the National Seminar on Strategies and Programmes of Population and Family Planning Education, Jakarta, Indonesia, Bangkok, 1986.

UNESCO, ROEAP, **Evaluation in Population, Education in the Pacific,** Bangkok, 1985.

UNESCO, ROEAP "Monitoring and evaluation" Paper prepared by Leonardo de la Cruz, based largely on the UNESCO Manual, **Evaluation Research on Population Education,** Bangkok, 1986.

UNESCO, Regional Office for Evaluation in Asia and Oceania, **Goals and Theories of Education in Asia - Reports of a Regional Workshop,** Bangkok 1980.

UNESCO, Regional Office for Education in Asia and the Pacific, Population Education Programme Service. **Curriculum Development in Population Education,** Abstract - Bibliography, Series 6, Bangkok 1985.

UNESCO, Regional Office for Education in Asia and the Pacific, Population Education Programme Service, **Programmes of Action to Enhance the effectiveness of Population Education,** Bangkok 1987.

UNESCO, **Population Education, A Contemporary Concern, International Study of the Conceptualization and Methodology of Population Education** (ISCOMPE) UNESCO, Paris, 1978.

UNESCO, Regional Office for Education in Asia and the Pacific, Population Education Programme Service, **Learning Experiences in Population Education.** Bangkok, 1985.

UNESCO, Regional Office for Education in Asia and the Pacific, Population Education Programme Service, **Training in out-of-School Population Education** - Abstract - Bibliography, Series 3, Bangkok 1982.

UNESCO, Principal Regional Office for Asia and the Pacific, Population Education Programme Service, **Management, Planning and Monitoring Population Education Programme** - Abstract - Bibliography Series 8, Bangkok, 1987.

UNESCO, Regional Office for Education in Latin American and the Caribbean. Regional Seminar Concerning Programs in Education and Population, Santiago, Chile, 1974.

UNESCO, ROEAP, Population Education Programme Service, Part One: **Readings on the Nature and Methodology of Population Education**, Bangkok, 1982.

UNESCO, ROEAP, Population Education Programme Service, **Learning Experiences in Population Education**, Bangkok, 1985.

UNESCO, ROEAP, Population Education Programme Service, **Action Programmes for the Qualitative Improvements of Population Education** - Report of a Regional Consultative Seminar, Bangkok 1983.

UNESCO, ROEAP, Population Education Programme in Asia: **"What Research Says** - Abstract - Bibliography Series 4, Bangkok, 1983.

UNESCO, ROEAP, Population Education Programme Service, **Population Education in Non-Formal Education and Development Programmes - A manual for Field - Workers**, Bangkok, 1981.

UNESCO, ROEAP, Population Education Programme Service, **Selected Entries on Demography and its Bearing on Population Education in Seven Asian Countries** - Abstract - Bibliography Series 7, Bangkok, 1986.

UNESCO, ROEAP, Population Education Programme Service, **Training Methodologies in Population Education** - Abstract - Bibliography Series 5, Bangkok 1984.

United States Civil Service Commission, **Training Evaluation : A guide to its Planning, Development and use in Agency Training Course**, 1971.

Viederman, Stephen, **Population Education in the United States, : A report to the Commission on Population Growth and the American Future:** The Population Council, New York, 1971.

Viederman, Stephen, "Population Education: Towards a Broader Definition" Revised in **Social Action,** Vol.25, January - March 1975.

Viederman, Stephen, "Developing Education Programmes for Population Awareness" in Mehta T.S. and Chandra, Ramesh (eds) **Population Education - Selected Readings** N.C.E.R.T., New Delhi, 1972.

Villanueva, Carmelita, L. **Introducing Human Sexuality into the Population Education Curriculum.** Population Education Research Utilization Monograph Series, Part 3, Population Center Foundation, Philippines, 1976.

Villanueva, Carmelita, L. "On the effectiveness of the discovery approach as a teaching method for Population Education" 1976 quoted in UNESCO, ROEAP, Population Education Programme Service, **Teaching Methodologies in Population Education** - Abstract - Bibliography Series 3, Bangkok, 1984.

Villanueva, Carmelita, L. **"Value Clarification in Population Education"** Population Education Research Utilization Monograph Series 2, Part 2, Philippines: Population Center Foundation 1977.

Visaria, Parin "The Need for Education for Population Awareness" in Mehta T.S. and Chandra, Ramesh (eds) **Population Education - Selected Readings** N.C.E.R.T., New Delhi, 1972.

Wayland, Sloan R. **Issues and Problems in Introducing Population Education,** Bangkok, UNESCO, Regional Office for Education in Asia, 1972.

Wayland, Sloan R. **"Issues and Problems in introducing Population Education",** Teacher's College, Columbia University, New York, 1971.